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U. S. DEPARTMENT OF COMMERCE
BUREAU OF FISHERIES

FISHERY INDUSTRIES OF THE UNITED STATES
1929

By R. H. FIEDLER

FISHERIES DOCUMENT No. 1095

U. S. DEPARTMENT OF COMMERCE
R. P. LAMONT, Secretary
BUREAU OF FISHERIES
HENRY O'MALLEY, Commissioner

Bureau of Fisheries Document No. 1095

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FOR THE FISCAL YEAR 1930

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FISHERY INDUSTRIES OF THE UNITED STATES, 1929[1]

By R. H. Fiedler

Chief, Division of Fishery Industries

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[1] Appendix XIV to the Report of the U. S. Commissioner of Fisheries for 1930, Bureau of Fisheries Document No. 1095. Submitted for publication June 30, 1930.

FOREWORD

This report constitutes a yearbook on fishery statistics of the United States as well as a summary of activities of the division of fishery industries. As its name indicates, this division of the bureau is concerned with the activities and welfare of the fishery industries, including the commercial fisheries, the trade in fishery products, and the fish canning and preserving industries. Its functions are the collection and publication of fishery statistics, the prosecution of research designed to solve the technical problems of the industry, and the dissemination of authoritative and practical information to the fishery industries and the public. Results of technological investigations and marketing studies are published in separate documents as each project is completed. The information obtained from statistical surveys is published in Part 2 of this report, which includes all the detailed statistical information that has become available since the issuance of the previous report,[2] together with such summarized statements and interpretations of the statistics as are deemed significant and useful. In the preparation of this report numerous members of the division's staff have taken part, and their assistance is appreciatively acknowledged.

Part 1. OPERATIONS OF THE DIVISION

COLLECTION OF STATISTICS

The statistical work of the division in 1929, as in former years, included the collection and dissemination of statistics on the catch of fishery products and the gear employed in making the catch and statistics of related fishery industries. In the former group are those statistics that are intended primarily for the use of the fishery biologist, upon which to base wise conservation measures, although they are indirectly valuable for economic purposes. This is especially true of statistics for the landings of fish at principal fishing ports, which are published monthly. In the latter group are statistics that are of use mainly for economic or trade purposes. In this group are included statistics of the canned fishery products and by-products of the United States, cold-storage holdings of fish and amounts of fish frozen in the United States, marine-animal oil production, and similar statistics.

During 1929 rapid progress was made in the collection of statistics of the catch of fishery products in the United States. This has been occasioned by greater cooperation with State fishery agencies and by the extended use of automobiles by agents, which has enabled them to canvass a larger territory than was formerly the case when travel was performed mainly by train. As a result, catch statistics for 1928 were obtained of the fisheries in our New England, South Atlantic, Gulf, Pacific Coast, and Great Lakes States. Continuous annual catch statistics are now available for the Great Lakes States from 1913, Pacific Coast States from 1922, South Atlantic and Gulf States from 1927, New England States starting with 1928 (as it is now planned to canvass the latter States annually), and the State of Connecticut from 1924. The latest catch statistics now available on each geographical section are as follows: New England, South Atlantic, Gulf, Pacific Coast, and Great Lakes States, 1928; Middle Atlantic States, 1926; Chesapeake Bay States, 1925; and Mississippi River and tributaries, 1922.

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[2] Fishery Industries of the United States, 1928. By R. H. Fiedler, Appendix IX to the Report of the U. S. Commissioner of Fisheries for 1929, pp. 401-625. Bureau of Fisheries Document No. 1067.

In addition to the general catch statistics, the collection and (or) publication of statistics on special subjects was continued during 1929, as follows: The landings of fish by American fishing vessels at the ports of Boston and Gloucester, Mass., Portland, Me., and Seattle, Wash.; landings of halibut at North Pacific coast ports (published monthly, and annual bulletins summarizing these landings for the year); catch of mackerel in the North Atlantic fishery; cold-storage holdings of frozen and cured fish and amount of fish frozen, which are furnished by the Bureau of Agricultural Economics (published monthly); production, consumption, and holdings of marine-animal oils of the United States and Alaska (published quarterly by the Bureau of the Census); production of canned fishery products and by-products of the United States and Alaska during 1929; the catch of shad in the Potomac and Hudson Rivers; the catch of alewives in the Potomac River during 1929; transactions on the sponge exchange at Tarpon Springs, Fla., during 1929; volume of fishery products handled at the municipal fish wharf and market, Washington, D. C., during 1929; and the volume of United States imports and exports of fishery products during 1929, furnished by the Bureau of Foreign and Domestic Commerce.

CATCH ANALYSIS—COLUMBIA RIVER CHINOOK SALMON FISHERY

An investigation was initiated by the bureau during the summer of 1929 for the purpose of determining the relative abundance of chinook salmon in the Columbia River over as long a period of time as might be possible. The method used in attacking the problem consisted of making an analysis of the detailed catch records of this fishery in order to determine the average catch return per constant unit of effort and gear in each year represented in the available data.

With this objective in mind, detailed records of the daily catches of individual fishermen delivered at Astoria, St. Helens, Clifton, and Warrendale—all in the State of Oregon—were collected and tabulated. The catches of the gill-net fishermen appeared to offer the best and most accurate data and were used exclusively in this analysis. The collection of these records was made possible through the cooperation of the Oregon Fish Commission, the Washington Department of Fisheries and Game, and several of the packing companies on the Columbia River. The records from Astoria covered the period from 1909 to 1929, inclusive, and those from Warrendale, Clifton, and St. Helens, 1923 to 1928, inclusive. The average daily landing per fisherman for each day and at each locality included in these data was computed. Since these fishermen are always near a buying station, cannery, or buyer's boat, the daily landings are, in practically all cases, the result of one day's fishing and were so considered.

From these data and daily averages, several types of indices of abundance were computed for each group of data and it was found that according to the Astoria data from 1909 to 1925, the trend of the average catch return per unit of effort and gear was without any pronounced increase or decrease. Since 1925, however, there has been a steady decline from 196 pounds average catch per man per fishing day to 102 pounds average catch per man per fishing day during 1929.

It has been possible to determine through a study of the number of licenses issued on the Columbia River, by both of the States of Washington and Oregon, that the amount of gear fishing on that river has been comparatively constant during the period of time from 1909 to 1929, inclusive. This obviates the possible error that might have been caused if the amount of gear on the river had increased or decreased greatly during the last few years and so caused a drop or rise on catch per unit of effort and gear due to increased or decreased competition between pieces of gear.

From tagging and other biological studies it is known that the salmon population spawning in the Columbia River system is composed of numerous separate races or "runs," each of which has its individual parent tributary stream or spawning area, and a fairly constant time for making its annual upstream migration. With these facts already determined it appears that it may be possible by a study of the detailed data to learn something of the fluctuations in abundance of the separate runs, rate of upstream migration, and at what time populations bound for certain tributaries pass through the commercial fishery.

In order to make the results of this investigation conclusive and to guard against possible errors, it is planned to collect more data during the summer of 1930 to establish the adequacy of the present method for sampling the catch records.

TECHNOLOGICAL INVESTIGATIONS

Applied fisheries technology has given the fisheries industries a new outlook on the future. In the three or four decades preceding the World War, little was done to improve conditions in the fisheries with the result that they were fast losing ground. However, under the war's stimulus for more protein food and cheaper methods of manufacture, the fisheries industries learned that to compete with other food industries radical changes were necessary. Realizing this, several agencies set about to study the problems, foremost of which were the Bureau of Fisheries and the College of Fisheries at the University of Washington in Seattle, Wash. These agencies instituted fishery products laboratories where technological studies were made of our fish manufacturing industries. During the interim from war times to the present the industry has applied the results of experiments conducted in these laboratories to commercial procedure, as well as those obtained from research in private fisheries products laboratories more recently established by various fishing companies, and the industry forged ahead in a revolutionary fashion. As a result, excessive overhead expense in the production and manufacture of fishery products has been reduced; a larger number of inland consumers have been supplied with fresh and frozen fishery products, especially those marketed in attractive unit packages of uniform quality; by-products, which formerly were utilized for fertilizer or in the arts and industries, are now used for feedstuffs and, in addition, the rôle of fishery products in the dietary of man has been demonstrated; waste products of the fisheries have been converted into valuable articles of commerce; better methods have been evolved for the manufacture of certain cured and canned fishery products; and preservatives have been developed which prolong the life of fishing nets. All this has stabilized the fishery industries, and the strides made have been so rapid that certain other food industries are looking toward them for guidance, especially those manufacturing frozen food products.

During the past year the division's technologists have been conducting research mainly on problems relating to the manufacture of fish meal and oil, the feeding value of marine products, the handling and transportation of fresh and frozen fish, and the preservation of nets. These problems have carried the technologists to many parts of the country where conditions are studied first-hand. The Reedville laboratory was kept open all the year, due to the fact that problems in the menhaden industry were involved and required continuous study. In addition, a summer laboratory was established at Erie, Pa., to study net preservatives, and a temporary laboratory was in operation at Columbia, S. C., to study the precooling of fish in the South. During the school year the bureau had an employee at Johns Hopkins University, studying the nutritive value of fishery products in cooperation with the nutritional authorities there.

NET PRESERVATION

Development of net preservatives under conditions which accelerate deterioration has been continued at Beaufort, N. C., but special attention has been given to investigation as far as possible of preservative material upon twine exposed in actual fishing waters. The work has been concentrated upon trap and gill nets, since the preventable losses from deterioration of these types of gear represent a considerable amount each year.

TRAP NETS

The service of trap nets differs from that of all other classes of gear for the reason that part of the fabric is in the water for long periods of time. The webbing is hung upon stakes so that the top portion of the net is above high water and the remainder of the net is under water. Thus part of the net is continually under water and hence may foul badly—the character and extent of growth being dependent upon individual localities.

In certain localities and especially on the coast of New Jersey, the growth of marine grasses upon trap nets is very serious, due to the formation of a solid wall which resists water movement and by which action the net may be washed out in a storm. Shell growths such as barnacles attach to the net and are objectionable as they may injure the hands of the fishermen when the net is fished. All fouling adds to the weight of the net and hence to the labor of fishing.

Too little attention has been given to the necessity in trap-net preservatives of a coating on the twine that will offer increased resistance to mechanical abrasion. Certain portions of a trap net are subjected to severe wear when webbing is hauled over the gunwale of a boat; the wave action, especially in storms, subjects portions of the net to abrasion against the stakes and the damage from driftwood is of no small consequence.

Recognizing that knowledge of the effect of preservatives in actual fishing waters is essential for practical developments, various methods have been employed which would serve for test purposes; due to personal factors, this phase of investigation has not been altogether successful, but in the past season reasonably satisfactory tests were obtained in fishing waters by mailing to cooperators, light wooden frames containing twines covered with experimental preservatives, the frames after a certain exposure being returned to Washington for a test. While the number of preservatives tested by this method is limited, the extension of knowledge of deterioration in various waters is of great value.

Experiments have demonstrated that among the best preservatives for trap nets are cuprous oxide, coal tar, mercuric oxide, and copper oleate. The proportions of these incorporated into the net appear to depend upon individual localities. Coal tar is more effective in salt water than in fresh water and also where tidal action is above normal. Cuprous oxide and copper oleate are most effective in quiet and in fresh water. Under certain conditions, mercuric oxide is an excellent preservative when used with coal tar; its cost is high and hence it should be used only when necessary. More complete information relative to the preservation of trap nets is contained in Fisheries Document No. 1075.

GILL NETS

The study of the problem of obtaining longer service from gill nets by the use of preservatives has been continued, and it has been demonstrated that the use of the soluble portions of coal tar carrying fine cuprous oxide has increased the life of the net up to 40 per cent. A mixture of copper oleate and copper resinate has also proved efficacious. The former treatment produces a brown net and the latter treatment a greenish net. The fishing power of the colored nets appears to be equal to that of plain or untreated material.

No preservative will prevent the damage to gill nets that is caused by snags or by the present method of removing fish, although a sustained mechanical strength, through the use of preservatives, should lessen losses from these causes. Fishermen recognize that gill nets should be thoroughly washed after use, but greater care should be used in storage after drying. Direct sunlight is a powerful chemical agent, and a gill net should be stored away from direct sunshine as soon as possible after drying. The deterioration of gill nets under certain local water or atmospheric conditions is extremely rapid and can not be explained by the present methods of washing and drying which are reasonably constant. It would appear that prevention of rotting by the use of preservatives is essential and may be accomplished when the causes of the rotting are better understood. Further information concerning the preservation of gill nets is contained in the document referred to above.

BY-PRODUCTS

MENHADEN

During the past year the bureau continued its technological study of the menhaden industry. This industry has been given special attention since it is typically representative of most of the oily fish reduction industries, and certain of the information obtained should find application in all by-products industries where similar materials are handled and the wet process of reduction is considered most advisable. In addition, the menhaden industry is perhaps in most need of assistance because of the recent decrease in the annual amount of raw material taken. For instance, in 1922 the peak catch amounted to 1,212,450,669 fish while in 1929 the catch barely exceeded 660,000,000 fish. The factories representing the industry were designed and first operated during periods of bountiful fishing. With an abundant supply of fish on hand, little attention was given to the efficiency of the process. Now, however, the same factories must operate on smaller quantities of fish and losses formerly unnoticed are becoming of considerable economic importance. If by technical improvements in the process used the losses now encountered could be reduced, the amount of material obtained from the supply of raw material at hand would necessarily be increased and additional income made available. This, then, has been one of the aims of the bureau's investigation.

Another point receiving consideration has been the quality of the finished product. Recent development in animal-nutrition studies indicate that products of marine origin have very desirable feeding qualities because they contain valuable proteins, minerals, and vitamins. Formerly the dried scrap produced was marketed entirely as a fertilizer material. It is essential that the quality of the product receive attention because a material produced for fertilizer purposes without consideration of preserving the components of nutritional value is very unlikely to possess the full feeding value of which it is capable.

The studies with respect to the reduction process show at least two important opportunities for improvement. They are (1) the handling and separation of press liquors, and (2) the drying of the pressed fish. The data obtained show that the press liquors contain approximately 22 per cent of the total flesh of the original material. Of this, about 17 per cent is dissolved proteins and about 5 per cent is suspended material. At the present time all dissolved material is discarded and only about one-third of the suspended material is recovered. The data further disclosed that only about 90 per cent of the oil in the press liquors is recovered as first grade oil, about 2 per cent is absolutely lost and the remaining 8 per cent is recovered in such a manner that it has lost approximately half its value.

Several methods of reducing the above losses were studied. Theoretically, all solids now lost in the press liquors would be saved by dry rendering. In this process the raw fish are cooked and dried in one operation in a steam-jacketed batch dryer. Tests with such equipment indicate that menhaden do not react satisfactorily to this type of reduction. Even though the process was carried on under considerably reduced pressure, a dark oil of high acid content resulted. For this reason, further test work was confined to recovery methods adaptable to the present wet process. Tests with a simple rotary screen indicated that over 80 per cent of the suspended material could be recovered. This would amount to an increase of approximately 2 per cent of the total amount of scrap produced. Data obtained on the amount of liquors and the content of dissolved materials present indicated that this material could be recovered at a profit in suitable evaporating equipment. Tests with mechanical separators also showed that the present oil loss could be reduced and the final quality of the oil raised. Data obtained on methods of drying press cake indicate that the present method of drying causes an actual loss of material and, no doubt, decreases the potential feeding value of the finished product. Further studies on drying show that by drying the material in a continuous steam dryer of relatively high capacity for this type of equipment, the value of the meal obtained from a similar quantity of fish can be increased about 6 per cent. This increase is due to the elimination of dust losses, and the reduction of distillation and burning losses by drying at lower temperatures. In addition the quality of the meal has been raised, according to preliminary feeding tests, and the product is capable of demanding a higher price and should cause an increase in the demand for this type of material.

Considerable attention was also given to the matter of proper storage conditions aboard vessel and at the factory. At the present time vessel operation is not efficient on account of the many trips to the factory where small catches of fish are brought in at little or no profit in order to prevent their spoilage before being reduced. In order to prevent additional spoilage at the factory, the plant capacity is such that the fish may be reduced within a few hours after their arrival. This necessitates high-capacity equipment and a large amount of labor that is only used for a few hours each day. Idle machinery and laborers increase production costs. Studies were conducted on the keeping qualities of fish at various temperatures. The results show that fish chilled to and maintained at temperatures between 35° F. and 40° F. are in as good condition for reduction purposes after five or six days storage as fish handled by present methods after only 24 hours.

A complete report of the bureau's study of the menhaden industry is being prepared for publication.

REDUCTION OF WASTE FROM NONOILY FISH

During the past year the bureau continued its studies of methods of reducing the waste from nonoily fish. This type of waste contains a considerable amount of glue material, which causes sticking within the dryer and forms an insulating coat of material on the inner surface of the drying chamber. Most operators overcome this difficulty by using a wet process in which the material is cooked and pressed before drying is attempted. In doing this, much of the gluey material is eliminated and the difficulty of drying is reduced. This procedure makes it necessary to cook and press the material and causes a loss of protein material in the press liquors. The bureau's studies have shown that the material can be handled with some success in one operation, if dried under considerably reduced pressure. To eliminate the sticking, however, it was found necessary to reduce the size of the initial charge and have scraping blades on the agitator come in direct contact with the dryer walls. This latter effect was accomplished by having the scraper blade forced ahead of the agitator paddle and held against the inner walls of the dryer by means of strong springs. The spring blade arrangement allows for contraction and expansion of the metals due to changes in temperature. While these results show some improvement, they are not entirely satisfactory since capacity has necessarily been sacrificed and horsepower requirements increased. Further work on this problem is contemplated.

WASTE FISH AND SHARKS

Many fishermen in isolated localities catch, along with the marketable fish, small amounts of fish considered undesirable for human consumption. In most cases the supply is too small to warrant the installation of reduction machinery and is not utilized. Recently one of the bureau's technologists conducted a series of tests on the acidulation of raw shark flesh and flesh from waste fish taken by Florida trap-net fishermen. It was found that by mixing the material, finely chopped, with as little as 5 per cent by weight of commercial sulphuric acid, decomposition would be arrested and the material could be dried in the sun in the course of two or three days. This product would make a very desirable fertilizer material. Best results were obtained by spreading the acidulated material in a thin layer on flakes constructed of acid-resisting material and so setting them above the ground that the air had access to the lower surface of the layer as well as the top. By this simple procedure many fishermen, without any considerable effort or expense, can realize a profit from material that is now nothing more than a nuisance.

NUTRITIVE VALUE OF FISHERY PRODUCTS

The bureau has undertaken an extensive program of cooperative research in which the nutritive value of marine products is being studied. There are two incentives back of this work: One is that certain nutritional research is necessary for the furtherance of certain phases of technological investigations of the bureau, and the other incentive is the ever-increasing scientific knowledge that marine products are unexcelled in nutritive value.

The bureau's investigator at Johns Hopkins University has completed a series of studies of the general feeding value of fish meals and shellfish meals and the results will soon be published. These experiments have covered a period of approximately two years and they have had the following purposes in mind or have been studied from the following viewpoints: (1) As sources of protein, (2) comparison on an equal weight basis of different meals made by different methods of manufacture, (3) comparison with packing-house products, (4) preliminary investigations of the effect of free fatty acids in the diet. It was found that differences in nutritive value of the various meals lie not only in the variety of meal used, but also in the various methods of manufacture of the same material. In general, it was demonstrated that vacuum and steam dried products were superior to flame-dried products. Steam and vacuum dried menhaden meals were superior to flame-dried menhaden meal and vacuum-dried whitefish meal was superior to flame-dried whitefish meal.

According to data obtained in these experiments, meals rated as follows in nutritive value: (1) Vacuum-dried whitefish meal and steam-dried menhaden meal of about equal feeding value, (2) flame-dried pilchard (California sardine), (3) flame-dried whitefish meal, (4) flame-dried menhaden meal, (5) shrimp meal.

In comparing packing-house products with fish meals, a high-grade specially desiccated meat meal prepared from condemned carcasses and obtained from the United States Department of Agriculture was found to be about equal to the flame-dried fish meals. Commercial meat meal was decidedly inferior to any of the fish meals and commercial tankage was very poor. Extracted menhaden fish meal was inferior to commercial unextracted menhaden fish meal. The addition of 5 per cent of oleic acid to the diets proved very detrimental to the animals. Fish meals were found to be a much better source of protein than casein. It was also found that when calcium or phosphorus was added to the diets containing fish meals no better growth response resulted than when none was added. This would seem to indicate that fish meal is in itself an adequate source of calcium and phosphorus in the diet, and that it is not necessary to supplement fish meal with these minerals.

The bureau has also undertaken, in cooperation with the Bureau of Chemistry and Soils of the United States Department of Agriculture in the laboratories of the protein and nutrition division of that bureau, a cooperative research program involving the determination of the comparative vitamin values in fish oils. The total production of fish oils in this country during 1929 was over 12,000,000 gallons. The six most important oils, exclusive of cod-liver oil, are: Pilchard (California sardine), menhaden, Alaska herring, salmon, Maine herring, and tuna; and their annual production ranges from approximately 6,500,000 gallons for pilchard to 60,000 gallons for tuna. At the present time these oils are used principally in the soap industry, as drying oils in the paint industry, and also to some extent for leather sizing and tempering steel. This investigation was designed to find new uses for these commercial fish oils. Preliminary data indicate that commercial tuna oil is superior to the best obtainable grade of medicinal cod-liver oil in potency of vitamin D, and that commercial pilchard oil is equal to the best grade of medicinal cod-liver oil in this respect. As regards vitamin A potency, the commercial fish oils did not show up as well as medicinal cod-liver oil. Commercial salmon oil is approximately half as potent in vitamin A as medicinal cod-liver oil. The low content of vitamin A in these commercial oils is probably due to the high degree of heat and oxidation to which these oils are subjected in their method of production over a relatively long period of time.

The importance of these results to the fish-oil industries of the United States can not be too greatly emphasized, for it means that for some of these oils, at least, a new field of usefulness, namely, that of animal nutrition, has been opened. Undoubtedly, improvements in the method of production of these oils would greatly reduce losses of potency.

In the cooperative program with the Bureau of Chemistry and Soils, studies of the vitamin potency of fish meals and of oysters have been started.

Arrangements have been made for practical feeding tests in which various kinds of fish meals and shellfish meals are being fed in the rations of dairy cows. This is a cooperative project involving 60 cows located on a dairy farm near Washington. These practical tests are the most comprehensive of their kind ever to be conducted in this country and the results should have far-reaching importance. A number of outside agencies are vitally interested and are cooperating in this undertaking. It is expected that the tests will be completed during the coming year.

In addition to the above-mentioned cooperative projects, the bureau has under way a number of other cooperative practical feeding tests now being conducted by various Federal and State agricultural experiment stations.

During 1929 the bureau published Document No. 1065, entitled "Bibliography on Cod-liver Oil in Animal Feeding, with Noncritical Comments and Abstracts." This publication contains more than 200 references on this subject and has proved of value to both fishery and agricultural industries.

IMPROVED HANDLING OF FRESH AND FROZEN FISH

RUSTING AND PREVENTIVE MEASURES

One of the problems confronting the producers of frozen fish is the oxidation of the fats in fish causing them to "rust." This is the result of a chemical reaction between the oxygen of the air and the oil and fat found in fish. It is particularly noticeable on the cut surfaces of the fish where the protective covering of the skin has been removed. In order to prevent this reaction it is necessary to protect this cut surface from contact with the air. The usual method for accomplishing this is by glazing the fish with a thin coat of ice. This, however, evaporates, and it has been found necessary to reglaze them at frequent intervals, which adds to the cost of storage. Several different methods are being tried for prevention of the contact between the surface of the fish and the oxygen of the air, and the preliminary results seem to indicate that some of these will prove very satisfactory.

LEACHING OF FOOD AND MINERAL VALUES

I has been recognized for several years that there is appreciable loss of food value and mineral constituents when fish are packed in contact with crushed ice. The water from the melting ice drips over the fish and results in a leaching effect.

The losses incurred in weight of the fish and food and mineral value have never been determined, and very little has been done to prevent losses of this nature. In preliminary experiments it was found to be as high as 4 pounds per ton over a period of seven days. This apparently is not a great loss until it is multiplied by the amounts of fish handled in crushed ice over a period of a year; then it begins to assume proportions which are really surprising.

In this same consideration it should be emphasized that the flavor and mineral constituents of the fish are the most important constituents which are most readily lost by leaching, and if losses of this nature are reduced the taste and food value of the fish will be little impaired from that as originally caught.

FORKING FISH ELIMINATED

It has been the universal practice to use forks for transferring fish when unloading the catch; this is detrimental to the fish, for the reason that the holes made by the forks allow bacteria to gain more ready access to the flesh of the fish, which in turn causes more rapid deterioration of the fish.

At the Boston fish pier, platforms have been installed for unloading the vessels and boats which eliminates to a large extent the use of the fork. Besides this, the platform method eliminates a part of the labor and makes it possible to unload more rapidly. This platform has not been universally adopted as yet, but progress is being made with this method. A plan has been developed and adopted by the board of directors of the Boston Fish Market Corporation for unloading vessels and boats by mechanical means, which will entirely eliminate the forking.

In order that more efficient work could be done in filleting fish a table was introduced with the cooperation of some of the packers. This was found to be of value in the elimination of false motion and has been adopted by three of the leading packers on the pier.

MECHANICAL FISH SCALERS

Removing the scales from fish has heretofore been accomplished entirely by hand, and is a slow and tedious process. Some of the large firms developed a machine for accomplishing this process in their plants, but these machines were not adapted to the small operator. However, a small machine for use in the smaller houses has been developed by a commercial company and found to be more satisfactory than the hand method.

IMPROVEMENTS ON TRAWLERS

Previously the bins of the trawlers have been so large that the fish which were placed in the bins first or in the bottom of the bin were exposed to the pressure of the entire load and were damaged materially by this excessive pressure. This has been remedied by making the bins smaller, which decreases the pressure and produces a higher quality fish.

The supports for these bins were constructed of wood and unpainted. The bacteria found ready entrance into the pores of the wood and it was found to be impossible to clean them and prevent the infection of the fish immediately upon placing them in the bins. At the suggestion of the representatives of the bureau, these supports on some vessels are now constructed of iron and are painted white.

The trawlers are now adopting insulation for the holds so that the fish are maintained at a lower temperature and there is also an appreciable saving of ice. Some of the vessels have insulated only the bulkhead between the hold and the engine room; others have insulated the entire hold, which is undoubtedly the most satisfactory and facilitates a greater saving of refrigeration.

PROBLEMS OF HANDLING FISH LIVERS

The oil from livers of certain fish taken in the North Atlantic is valuable for medicinal and nutritive purposes. In order that oil of the highest grade can be extracted from the livers it is necessary to handle them carefully. Several of the larger vessels are equipped with extraction facilities on board so that the oil is recovered while the livers are in prime condition.

On those vessels not equipped with apparatus for the immediate extraction of the oil, difficulty is encountered in preserving the livers until they reach the shore extraction plants. It was suggested to the operators of these vessels that barrels containing the livers be covered for protection against the entrance of water which is very detrimental. This suggestion was adopted with an apparent improvement in the quality of livers landed at the extraction plants.

Instructions as to those livers which were and which were not valuable for medicinal and nutritive purposes were given to the fishermen. This resulted in an improvement in the quality of oil produced.

Another suggestion which was adopted and which was found to increase the value of the livers was that of storing them in the refrigerated holds of the vessel. Storage here, which is at a low temperature, reduced the deterioration of the livers, which in turn produced a higher grade oil.

GENERAL SERVICE

Research is not the only important function of the technologists of this division. The dissemination of information of a technological nature to the industry is a duty which requires an increasing amount of time, year by year, as the technological activities of the bureau become enlarged. This information is distributed partly by correspondence and personal conferences with people that have for discussion problems too intricate to handle through correspondence. This technological consultation service is of considerable value to the industry, because, through past years of research, the bureau has acquired in its files a great amount of scientific knowledge in the different fields of fishery technology. Not only have the industries of this country taken advantage of such service, but, inquiries have been received from the fishery industries of Canada, Mexico, England, Norway, Sweden, Portugal, South America, India, South Africa, Haiti, Porto Rico, Japan, Siam, Austria, Czechoslovakia, France, Germany, Russia, Egypt, Panama, Spain, and Holland.

As chemists and technologists enter the service of the bureau it becomes necessary to especially equip them with knowledge concerning the fishery industries for very few scientists, no matter how well trained or experienced they may be, have had experience in fishery technology prior to entering the bureau's service. However, in acquainting the newer technologists with the industries at first hand, the bureau has established many valuable contacts to the mutual benefit of the industry and to the bureau, for by visiting the plants in the industry, technologists have sometimes been able to offer valuable suggestions for improvements from their general knowledge concerning good engineering and chemical practice, as obtained from related industries.

MARKET AND INDUSTRIAL SURVEYS

Market and industrial surveys are made to supply the trade with useful market information regarding the distribution and consumption of fishery products and to supply descriptive and economic data on our fisheries and fishery industries.

FACILITIES FOR FREEZING AND WAREHOUSING FROZEN FISHERY PRODUCTS

During late years the freezing and storing of fishery products has assumed unusual importance in this and other countries. In 1929 the amount of fish frozen in this country reached the largest proportions on record, amounting to about 122,000,000 pounds, with an estimated value in the cold-storage warehouses of $15,000,000. This is an increase of 7 per cent in volume over 1928. The increase in late years has been due almost entirely to the larger pack of frozen package fish products consisting mainly of haddock fillets, the production of which in 1929 amounted to 21,800,000 pounds valued at about $4,000,000.

In order to learn conditions surrounding the frozen-fish trade in the United States and Alaska, a survey was made during 1929 by the writer through questionnaires and by personal contact with the firms known to be publicly or privately engaged in it. It is believed that in this manner about 98 per cent of the trade was canvassed.

FREEZING FACILITIES

According to the data collected in 1929, there were 122 plants in the United States and Alaska which made a practice of freezing fishery products. Of this number 65 are located along the seacoast, 38 along our lake shores, and 19 at points in the interior of the country. Of those along the water front, 77 are located so that fishing boats and vessels can be unloaded directly at the pier of the freezing plant. The location of these is shown in Figure 1. Some of the plants use "rapid" freezing methods to perform the operation, although a majority use the "slow" or "sharp" freezing methods. Most of the plants are publicly operated, but there appears to be a distinct trend toward the privately owned plant. These latter are owned chiefly by firms packing frozen-package fish products. The freezing plants are most numerous in the northern latitudes, few being located in our southern sections.

These plants are capable of freezing about 3,617,000 pounds of fish per working day, or roughly, about 1,000,000,000 pounds per year of 300 working days. At this rate it might be assumed that present facilities are sufficient to freeze all of the fish marketed in a condition other than that canned or cured, for, annually, about 1,000,000,000 pounds of fishery products are marketed in the fresh and frozen condition. However, this is far from true, for, like any plant preserving a seasonal article, it must be equipped to handle the peak loads, as generally there is not a steady flow of fish through the plants. A plant interested primarily in freezing a seasonal article, such as fish, finds it necessary to provide machinery to care for the peak load. At other seasons of the year it may be more or less idle, as is the case with that in a plant canning a seasonal product. For this reason it may be necessary, for several years to come, to erect freezing plants especially near points of production.

It is especially desirable that fish-freezing plants be located near centers of production for the following reasons: First, the fish can be unloaded from the fishing vessels directly to the freezing rooms. Second, the fish need not be barreled, boxed, or iced for transportation to the freezer. Third, there is a saving in transportation charges, for, when ready for distribution, the frozen fish can be forwarded by freight in carload lots to distribution centers, rather than by express in less than carload lots. Fourth, overhead expenses generally are less in a freezer located at the fishing port. And fifth, the quality of the fish before freezing is known.

In the New England section facilities are available to freeze 1,034,000 pounds of fish per working day. In the Middle Atlantic section 777,000 pounds can be frozen; in the Pacific section and Alaska,

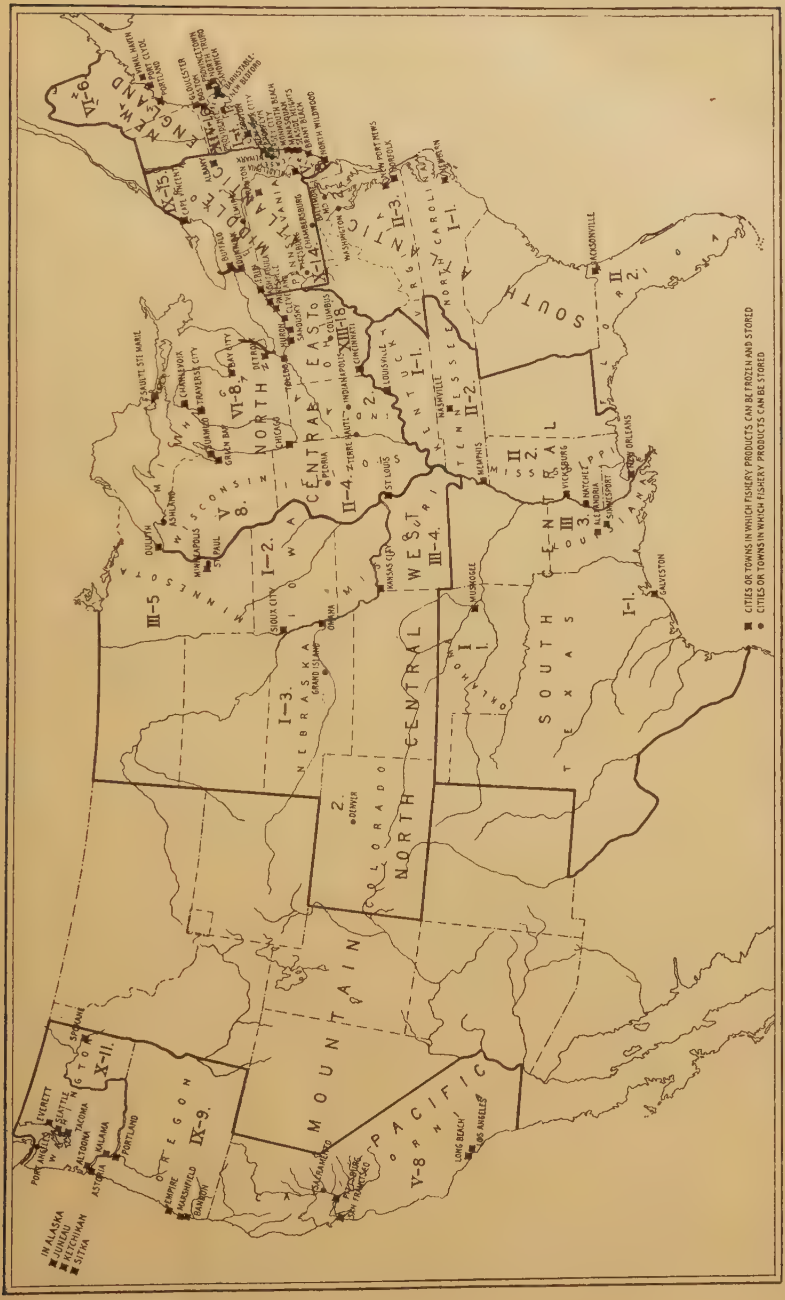
NEW ENGLAND
VI-6.
MIDDLE ATLANTIC
IX-15.
XIV-16.
X-14.
EAST NORTH CENTRAL
XIII-18.
VI-8.
V 8.
WEST NORTH CENTRAL
III-5
I-2.
I-3.
II-4.
III-4.
2.
SOUTH ATLANTIC
II-3.
I-1.
II 2.
EAST SOUTH CENTRAL
I-1.
II-2.
II 2.
III 3.
WEST SOUTH CENTRAL
I 1.
I-1.
MOUNTAIN
PACIFIC
X-11.
IX-9.
V-8
IN ALASKA
JUNEAU
KETCHIKAN
SITKA
PORTLAND
GLOUCESTER
BOSTON
PROVINCETOWN
NEW BEDFORD
BUFFALO
DUNKIRK
ERIE
CLEVELAND
SANDUSKY
TOLEDO
DETROIT
BAY CITY
CHICAGO
GREEN BAY
ASHLAND
DULUTH
SAULT STE MARIE
CHARLEVOIX
TRAVERSE CITY
MINNEAPOLIS
ST PAUL
SIOUX CITY
OMAHA
GRAND ISLAND
KANSAS CITY
ST LOUIS
PEORIA
TERRE HAUTE
INDIANAPOLIS
CINCINNATI
COLUMBUS
LOUISVILLE
NASHVILLE
MEMPHIS
VICKSBURG
NATCHEZ
ALEXANDRIA
SHREVEPORT
NEW ORLEANS
GALVESTON
MUSKOGEE
DENVER
JACKSONVILLE
NORFOLK
NEWPORT NEWS
WASHINGTON
BALTIMORE
PITTSBURG
CHAMBERSBURG
NORTH WILDWOOD
ALBANY
NEWARK
SEATTLE
EVERETT
TACOMA
PORT ANGELES
ALTOONA
KALAMA
ASTORIA
EMPIRE
MARSHFIELD
BANDON
SPOKANE
SACRAMENTO
SAN FRANCISCO
PITTSBURG
LONG BEACH
LOS ANGELES
■ CITIES OR TOWNS IN WHICH FISHERY PRODUCTS CAN BE FROZEN AND STORED
● CITIES OR TOWNS IN WHICH FISHERY PRODUCTS CAN BE STORED

FIGURE 1.—Cities or towns in the United States in which fish-freezing plants and cold-storage warehouses are located. Arabic numbers indicate the number of cold-storage warehouses in a State; roman numerals the number of freezing plants in the State

869,000 pounds; and in the North Central, East, section, 484,000 pounds. Each of the other sections is equipped to freeze between 100,000 and 200,000 pounds per working day.

WAREHOUSE FACILITIES

Every freezing plant operates a cold-storage warehouse in connection with it, and, in addition, there are numerous cold-storage warehouses located at strategic consumption or distribution centers. In all, there are 168 such warehouses in the United States and Alaska. From 24 to 40 are located in each of the following sections: New England; Middle Atlantic; North Central, East; and Pacific. The other sections have 4 to 16 each. The location of these warehouses is shown in Figure 1. Practically every section of the country except the Rocky Mountain region and the extreme southeast has a cold-storage warehouse for holding fishery products at distances not more than 200 to 300 miles apart.

Facilities for the cold storage of frozen fish at consumption centers enables economy in marketing of these products. Carload lots can be delivered by rail at low rates to these warehouses, stored there, and later distributed to the surrounding territory by motor truck or express in less than carload lots.

The cold-storage warehouses in the United States and Alaska during 1929 were capable of holding a maximum of 209,660,000 pounds of fishery products at one time. On the basis of 1 ton occupying 40 cubic feet of space, this would be the equivalent of 4,193,000 cubic feet. This is a mere fraction of the total refrigerated space available in the United States for all food commodities, for, according to the Department of Agriculture reports, the total refrigerated space in this country amounts to about 668,000,000 cubic feet.

The New England section has the most space available for holding frozen fish and can warehouse 58,755,000 pounds; 40,122,000 pounds can be stored in the Middle Atlantic section; 35,746,000 pounds in the North Central, East, section; 26,565,000 pounds in the Pacific section; 20,820,000 pounds in the North Central, West, section; 18,000,000 pounds in Alaska; 6,950,000 pounds in the South Atlantic section; and 2,702,000 pounds in the South Central section. The space available in the various sections indicates that on the basis of maximum holdings in 1929 two to four times as much frozen fish can be stored in the various sections as are now stored, and over the country as a whole about three times as much can be stored. However, while certain sections appear to have additional space available, that section between the Mississippi River and the Rocky Mountain region appears to be undersupplied with space.

WATER AND RAIL FACILITIES AT PLANTS AND WAREHOUSES

Of the warehouses freezing and storing frozen fish, 77 are located directly along the water front, and 103 have railroad spur tracks connecting with one or more railroads entering the city in which they are located. These can accommodate 620 freight cars at one time.

Cities or towns in the United States and Alaska in which fish-freezing plants and cold-storage warehouses were located in 1929

State and city or town	Freeze	Store
	Number	*Number*
Maine:		
Port Clyde	1	1
Portland	4	4
Vinal Haven	1	1
Massachusetts:		
Barnstable	1	1
Boston	3	3
Gloucester	3	4
New Bedford	--------	1
North Truro	1	1
Provincetown	5	5
Sandwich	1	1
Rhode Island: Providence	--------	1
Connecticut: Groton	1	1
New York:		
Albany	1	1
Buffalo	2	3
Brooklyn	--------	1
Cape Vincent	1	1
Dunkirk	1	1
Elmira	--------	1
New York	4	7
New Jersey:		
Jersey City	--------	1
Manasquan	1	1
Monmouth Beach	1	1
Newark	--------	2
North Wildwood	1	1
Seaside Heights	1	1
Brant Beach	1	1
Pennsylvania:		
Chambersburg	--------	1
Erie	7	8
Philadelphia	2	3
Pittsburgh	--------	1
Scranton	1	1
Maryland: Baltimore	--------	2
District of Columbia: Washington	--------	1
Virginia:		
Newport News	1	1
Norfolk	1	2
North Carolina: New Bern	1	1
Florida: Jacksonville	2	2
Ohio:		
Ashtabula	1	1
Cincinnati	1	1
Cleveland	1	4
Columbus	--------	1
Painesville	1	2
Huron	3	3
Sandusky	5	5
Toledo	1	1
Indiana:		
Indianapolis	--------	1
Terre Haute	--------	1
Illinois:		
Chicago	2	2
Peoria	--------	2
Michigan:		
Bay City	1	2
Charlevoix	1	1
Michigan—Continued.		
Detroit	2	3
Saulte Ste. Marie	1	1
Traverse City	1	1
Wisconsin:		
Ashland	--------	1
Green Bay	4	6
Suamico	1	1
Minnesota:		
Duluth	2	2
Minneapolis	1	2
St. Paul	--------	1
Iowa: Sioux City	1	2
Missouri:		
Kansas City	2	2
St. Louis	1	2
Nebraska:		
Grand Island	--------	1
Omaha	1	2
Colorado: Denver	--------	2
Kentucky: Louisville	1	1
Tennessee:		
Memphis	1	1
Nashville	1	1
Mississippi:		
Natchez	1	1
Vicksburg	1	1
Louisiana:		
Alexandria	1	1
New Orleans	1	1
Simmesport	1	1
Oklahoma: Muskogee	1	1
Texas: Galveston	1	1
Washington:		
Altoona	1	1
Everett	1	1
Kalama	1	1
Port Angeles	--------	
Seattle	5	5
Spokane	1	1
Tacoma	1	1
Oregon:		
Astoria	4	4
Bandon	1	1
Empire	1	1
Marshfield	1	1
Portland	2	2
California:		
Long Beach	1	1
Los Angeles	1	2
Pittsburg	1	1
Sacramento	--------	2
San Francisco	2	2
Alaska:		
Juneau	1	1
Ketchikan	2	2
Sitka	1	1
Total	122	168

Location of fish-freezing plants and cold-storage warehouses for fish, with respect to geographic situation, in 1929

Section and State	Seaboard		Lakes		Inland		Total	
	Freeze	Store	Freeze	Store	Freeze	Store	Freeze	Store
	Number	*Number*	*Number*	*Number*	*Number*	*Number*	*Number*	*Number*
New England:								
Maine	6	6	--------	--------	--------	--------	6	6
Massachusetts	14	16	--------	--------	--------	--------	14	16
Rhode Island	--------	1	--------	--------	--------	--------	--------	1
Connecticut	1	1	--------	--------	--------	--------	1	1
Total	21	24	--------	--------	--------	--------	21	24
Middle Atlantic:								
New York	4	8	4	5	1	2	9	15
New Jersey	5	8	--------	--------	--------	--------	5	8
Pennsylvania	2	3	7	8	1	3	10	14
Total	11	19	11	13	2	5	24	37
South Atlantic:								
Maryland	--------	2	--------	--------	--------	--------	--------	2
District of Columbia	--------	1	--------	--------	--------	--------	--------	1
Virginia	2	3	--------	--------	--------	--------	2	3
North Carolina	1	1	--------	--------	--------	--------	1	1
Florida	2	2	--------	--------	--------	--------	2	2
Total	5	9	--------	--------	--------	--------	5	9
North Central, East:								
Ohio	--------	--------	12	16	1	2	13	18
Indiana	--------	--------	--------	--------	--------	2	--------	2
Illinois	--------	--------	2	2	--------	2	2	4
Michigan	--------	--------	6	8	--------	--------	6	8
Wisconsin	--------	--------	5	8	--------	--------	5	8
Total	--------	--------	25	34	1	6	26	40
North Central, West:								
Minnesota	--------	--------	2	2	1	3	3	5
Iowa	--------	--------	--------	--------	1	2	1	2
Missouri	--------	--------	--------	--------	3	4	3	4
Nebraska	--------	--------	--------	--------	1	3	1	3
Colorado	--------	--------	--------	--------	--------	2	--------	2
Total	--------	--------	2	2	6	14	8	16
South Central:								
Kentucky	--------	--------	--------	--------	1	1	1	1
Tennessee	--------	--------	--------	--------	2	2	2	2
Mississippi	--------	--------	--------	--------	2	2	2	2
Louisiana	1	1	--------	--------	2	2	3	3
Oklahoma	--------	--------	--------	--------	1	1	1	1
Texas	1	1	--------	--------	--------	--------	1	1
Total	2	2	--------	--------	8	8	10	10
Pacific:								
Washington	9	10	--------	--------	1	1	10	11
Oregon	9	9	--------	--------	--------	--------	9	9
California	4	4	--------	--------	1	4	5	8
Total	22	23	--------	--------	2	5	24	28
Alaska	4	4	--------	--------	--------	--------	4	4
Grand total	65	81	38	49	19	38	122	168

Number of fish-freezing plants and cold-storage warehouses in the various geographical sections and their capacities and facilities in 1929

Sections	Freezing plants	Maximum amount that can be frozen in 1 working day	Warehouses	Maximum amount that can be stored at one time	Warehouses on waterfront	Warehouses with railroad connection	Freight cars that can be handled at one time
	Number	*Pounds*	*Number*	*Pounds*	*Number*	*Number*	*Number*
New England	21	1,034,000	24	58,755,000	19	10	36
Middle Atlantic	24	777,000	37	40,122,000	10	21	129
South Atlantic	5	197,000	9	6,950,000	3	8	32
North Central, East	26	484,000	40	35,746,000	24	25	194
North Central, West	8	98,500	16	20,820,000	2	13	85
South Central	10	157,500	10	2,702,000	1	5	23
Pacific	24	614,000	28	26,565,000	14	21	121
Alaska	4	255,000	4	18,000,000	4		
Total	122	3,617,000	168	209,660,000	77	103	620

NOTE.—The New England section includes Maine, Massachusetts, Rhode Island, and Connecticut; Middle Atlantic—New York, New Jersey, Pennsylvania; South Atlantic—Maryland, District of Columbia, Virginia, North Carolina, and Florida; North Central, East—Ohio, Indiana, Illinois, Michigan, and Wisconsin; North Central, West—Minnesota, Iowa, Missouri, Nebraska, and Colorado; South Central—Kentucky, Tennessee, Mississippi, Louisiana, Oklahoma, and Texas; Pacific section—Washington, Oregon, and California; and Alaska.

OYSTER MARKET SURVEY

While the culture of oysters has made rapid progress in recent years, distribution through retail channels has not increased accordingly. In order to determine the factors limiting demand for this commodity, the bureau in cooperation with the Oyster Growers and Dealers Association of America (Inc.), and certain State officials, conducted a survey of the markets for oysters in various cities during the fall and winter months of 1929. This survey was conducted by making personal contacts with approximately 120 retail and wholesale dealers and 1,400 housewives in 14 cities of 13 States. Their reactions toward oysters as a food was noted.

The results of this survey show that 86.8 per cent of those interviewed serve oysters from 1 to 122 times per year. The per capita consumption of this sea food was found to be an average of 4.2 pounds per year in the cities surveyed. The highest per capita consumption was found to be 9.6 pounds per year in St. Paul, Minn., while the lowest was 2.6 pounds per year in Washington, D. C. Out of a possible 98 methods for preparing this food, only 15 were reported as generally used. Of those who reported, 52 per cent stated that their usual method of cooking was as a stew, while 39 per cent reported frying as their usual method.

Results of the interviews with retail dealers and wholesalers show that 58 per cent of them advertise in some form, and that the city having the highest per capita consumption also has the greatest number who advertise. The most popular size container is that of 1 pint. The largest per cent of weekly sales was found to be on Friday. The largest monthly sales were found to be made in December.

PUBLICATIONS OF THE DIVISION

During the calendar year 1929 the following publications were prepared and issued by this division. The list does not include the monthly statistical bulletins of the landings of fish at Boston and Gloucester, Mass., Portland, Me., and Seattle, Wash., nor the monthly reports on cold-storage holdings of frozen fish. The documents may be purchased from the Superintendent of Documents, Government Printing Office, Washington, D. C., at the prices shown. The statistical bulletins are distributed free of charge upon request. Persons interested in securing the statistical bulletins as released may have their names placed on the bureau's mailing list upon request.

DOCUMENTS

Fishery industries of the United States, 1927. By Oscar E. Sette and R. H. Fiedler. 8°, 147 pp. Document No. 1050. 25 cents.

Fishing grounds of the Gulf of Maine. By Walter H. Rich. 8°, 67 pp., 5 figs. Document No. 1059. 25 cents.

Bibliography on cod-liver oil in animal feeding, with noncritical comments and abstracts. By John Ruel Manning. 8°, 33 pp. Document No. 1065. 10 cents.

Fishery industries of the United States, 1928. By R. H. Fiedler. 8°, 224 pp. Document No. 1067. 35 cents.

ECONOMIC CIRCULARS

Goldfish industry. By Thomas Quast. 8°, 14 pp., 5 figs. No. 68. 5 cents.

STATISTICAL BULLETINS

Fisheries of the Gulf States, 1927. Statistical Bulletin No. 815.

Fisheries of the South Atlantic States, 1927. Statistical Bulletin No. 819.

Fisheries of the Pacific coast, 1926. Statistical Bulletin No. 820.

Canned fishery products and by-products of the United States and Alaska, 1928. Statistical Bulletin No. 821.

Fishery products landed by American fishing vessels at Seattle, Wash., 1928—by banks—by months. Statistical Bulletin No. 825.

Landings by fishing vessels at principal New England ports, 1928 (by months). Statistical Bulletin No. 829.

Landings by fishing vessels at the three principal New England ports, 1928 (by gear and fishing grounds). Statistical Bulletin No. 830.

Fisheries of Alaska, 1928. Statistical Bulletin No. 831.

Fisheries of United States and Alaska. Statistical Bulletin No. 832.

Fisheries of the Pacific Coast States, 1927. Statistical Bulletin No. 839.

Part 2. FISHERIES STATISTICS

REVIEW

The fisheries of the United States and Alaska continue to be in a sound economic position, according to the most recent statistics available. They now employ over 128,000 commercial fishermen and over 4,000 persons are employed in transporting fishery products from the fishing grounds to market, or from port to port. The annual catch amounts to 3,090,000,000 pounds, valued at about $116,000,000. Of this total annual yield, 2,662,000,000 pounds consist of edible fishery products and 428,000,000 pounds consist of nonedible fishery products which are manufactured into commodities used in the arts and industries.

In 1929, the production of canned fishery products amounted to 689,447,000 pounds, valued at $101,065,000, and the output of by-products was valued at $23,768,000. Cold-storage holdings of fish averaged about 56,000,000 pounds monthly, while 121,543,000 pounds of fishery products were frozen. The production of fresh and frozen package fish amounted to 84,397,000 pounds, valued at $14,813,000.

The production of goldfish was valued at about $1,000,000. Imports of fishery products were valued at $66,566,000, while exports were valued at $23,830,000. Compared with 1928, the value of canned fishery products and by-products was greater. More fish were frozen; larger quantities of packaged fish were produced, and the value of both imports and exports of fishery products was greater.

NEW ENGLAND STATES

According to the latest statistics for the fisheries of these States, the value of the catch in 1928 exceeded that in any year upon which there are records, while the volume of the catch exceeded that in any year during the past 39 years. Compared with the latest previous records, which are those for 1924, the catch increased 48 per cent and its value 36 per cent. This is due almost entirely to the larger catch of haddock, which is utilized chiefly by the fresh and frozen package fish trade. The output of package fish in these States registered practically a 50 per cent increase compared with the production in 1928. To supply the demand for raw fish by the fish packers more vessels equipped with otter trawls to enter the haddock fishery were added to the fleet, so that in 1929, 326 vessels of 5 net tons or over (38 more than in 1928) were outfitted with this gear and operated from Boston, Gloucester, and Portland. Landings of fish at these three ports in 1929 were larger than in any previous year, and the value received for this volume was also greater than in any one year. Landings of fish at various other New England ports in 1929 also increased, notably at Groton, Conn. The frozen-fish trade in 1929 showed increased business over that in 1928, due largely to the greater amount of haddock fillets which were frozen. The production of the sardine industry, which is the principal fish-canning industry in these States, decreased somewhat from that in 1928, but was well above the average annual pack since 1921. The cured-fish industry, long associated with the New England States and one of the principal fish-manufacturing industries of this section, showed a decline in production in 1928 compared with that in 1924, which is the latest previous year upon which there are records.

MIDDLE ATLANTIC STATES

According to the latest general statistical canvass of the fisheries of these States, made for 1926, the situation here is not encouraging. The production of many of the staple fish shows tremendous declines in 1926 under that for 1921. Notable examples of this are bluefish, which show a decline of 72 per cent; scup, 37 per cent; and squeteague, or weakfish, 36 per cent.

Landings of fish at New York City and Groton, Conn., which consisted largely of haddock, flounders, cod, and mackerel, increased in 1929 over those for 1928. The haddock were used mainly by the rapidly growing package-fish trade in the manufacture of fish fillets.

The production of the menhaden industry in 1929 declined somewhat under that for 1928. The catch of shad in the Hudson River in 1929 was somewhat less than that in 1928, although it was about equal to the average annual catch during the past 10 years. The pack of frozen fish was smaller in 1929 than in 1928.

CHESAPEAKE BAY STATES

As the latest general statistical canvass of the catch of fishery products for this region was made for 1925, no other later data are available on the condition of the catch of fishery products in these States. However, the general trend of the fisheries may be obtained from a study of the statistics, which are of more recent date, of the canning and by-products industries and certain other industries.

The menhaden industry recovered somewhat from the poor year of 1928 and produced a larger quantity of scrap and meal, but the value did not increase accordingly and barely exceeded that for 1928. Less oil with a less value was produced in 1929 as compared with 1928, with the net result that the total value of the menhaden industry in Virginia in 1929, in spite of increased production, was about the same as in 1928. This situation should bring home to the menhaden manufacturers that it should improve methods for the manufacture of their menhaden meal and oil with a view toward the production of a higher-grade product. To produce such a product would require but little additional expenditure in improving manufacturing methods.

In 1929 the alewife canning industry produced products which about equaled the amount canned in 1928. The production of the oyster industry changed little from the previous year. Some difficulty has been experienced in marketing oysters, as distribution through retail outlets has not kept pace in some parts of the country. The crab industry had one of its best years in history in 1929, according to reports of persons in the trade. The production of package fish in 1929 about equaled that for 1928. The catch of shad on the Potomac River in 1929 was somewhat less than that made in 1928, and about one-fourth less than the average annual catches during the past decade. The catch of alewives was less than that in 1928.

SOUTH ATLANTIC STATES

The fisheries of these States, which are conducted mainly by small operators along the shore, continue to be in a sound position. In 1928 the yield was about 1 per cent less than in 1927, but the value was 6 per cent greater. The production of canned shrimp in 1929 was somewhat higher than in 1928. The menhaden industry, which is rapidly becoming a factor in the fisheries of these States, showed a considerably increased production in 1929 over that in 1928.

GULF STATES

The fisheries of these States were more productive in 1928 than in any year upon which there are records since 1880, except in 1927, from which year they decreased 2 per cent in amount and 1 per cent in value. The production of canned shrimp in 1929 was about the same as in the previous year. The production of canned oysters in 1929 was considerably in excess of the pack in the previous year. The quantity of sponges handled on the exchange in 1929 at Tarpon Springs was below normal in both volume and value.

PACIFIC COAST STATES

The fisheries in these States yielded the greatest volume on record, in 1928, although the value did not keep pace and was less than in 1927. The pack of canned salmon in 1929 was 92 per cent greater than in 1928, due chiefly to an increased pack of pink salmon on Puget Sound, as 1929 was a "good" year for the run of this species of salmon. Compared with the previous "good" year—1927—there was an increase of 8 per cent in the pack. The pack of canned sardines has continued to increase, with that in 1929 exceeding all records, both in volume and value. The tuna canning industry manufactured a larger pack of tuna, breaking all previous records as to volume and value of the pack. The mackerel canning industry, which developed on a large commercial scale in 1928, increased its production by one-half in 1929 compared with the previous year, and the value increased accordingly. The catch of the halibut fleet in 1929 increased slightly over that made in 1928, and was one of the largest catches since 1925. The pack of frozen fish was slightly smaller in 1929 than in 1928.

LAKE FISHERIES

The American fisheries prosecuted in the Great Lakes in 1928 yielded the smallest catch on record. This decrease can not be attributed to a decline in the catch of any one species, for, practically all show a decline compared with their respective catches in 1927. Among these, the catch of ciscoes shows the most serious decline, the catch in 1928 barely exceeding 600,000 pounds compared with a catch of this species of 35,000,000 pounds in 1918. A decrease occurred in the catch of every lake except in Lake Ontario. This condition of the lake fisheries should prove an incentive to the various States and fishermen operating these fisheries to cooperate in an effort to promulgate wise conservation measures.

MISSISSIPPI RIVER AND TRIBUTARIES

No recent general statistical canvass has been made for the catch of fish in this region since 1922, and, therefore, the recent trend can not be determined. The yield of fresh-water mussel shells in 1929 used in the manufacture of pearl buttons and novelties decreased 6 per cent in quantity and increased 4 per cent in value compared with the production and its value in 1922. The fisheries of Lakes Pepin and Keokuk show a decreased yield in 1929 compared with that in 1928.

ALASKA

The fisheries of Alaska experienced another good year in 1929, although the catch and its value was slightly less than in 1928. The salmon canning industry in 1929 put up a 12 per cent smaller pack than in the previous year, but still this pack was above normal. The herring industry experienced another rather poor season, while the halibut fishery was about normal. The pack of frozen fish was slightly larger in 1929 than in 1928.

YIELD OF FOOD FISHERY PRODUCTS, BY VOLUME

As has been stated above, the yield of food fishes in the United States and Alaska amounts to about 2,662,000,000 pounds annually. Some 144 products contribute to this poundage. When considered by individual products, it is found that, according to the latest tabulation, the backbone of our fisheries is made up of 12 groups of products, these accounting for 80 per cent of the entire annual yield. Of first importance is the salmon, which forms the basis of a valuable canning industry on our Pacific coast from California north to the Bering

Sea. Of second importance is the pilchard, which is utilized in California for the canning of sardines. Haddock, which is taken on our North Atlantic seaboard, is third in importance, and is used mainly for manufacture into fillets, which is the basis of the rapidly expanding fresh and frozen package fish trade. Sea herring are fourth in importance. These fish are used extensively in Maine for canning as sardines, in Alaska and New England for salting and smoking, and large quantities also are frozen for use as bait. Oysters are fifth in importance. These are taken commercially in nearly every seacoast State. Those taken in the more northern latitudes generally are marketed fresh, while those taken in the southern States form the basis for an extensive canning industry. Shrimp are sixth in importance and form the basis for the rapidly growing canning industry along the South Atlantic and Gulf coasts. Cod, which is seventh in importance, is taken mainly in the vessel fisheries prosecuted from the New England States, and is used extensively for salting. Mackerels, eighth in importance, are taken in our North Atlantic sections and also in California. Those on the Atlantic seaboard are marketed mainly fresh and frozen, although considerable quantities are salted and canned; while those taken in California are used almost entirely for canning. Flounders, which rank ninth in importance, are taken in the marine fisheries of all sections. Tuna and tunalike fishes, tenth in importance, are native to the waters of California, and the high seas of the Pacific south from that State to Chile. These fishes form the basis for an important canning industry in California. Halibut, which are of eleventh importance in volume, are taken principally in the North Pacific, and are distributed in the fresh and frozen condition to all parts of the country. Crabs, which are of twelfth importance, are taken chiefly in the Chesapeake Bay region, where they form one of the most important fisheries there.

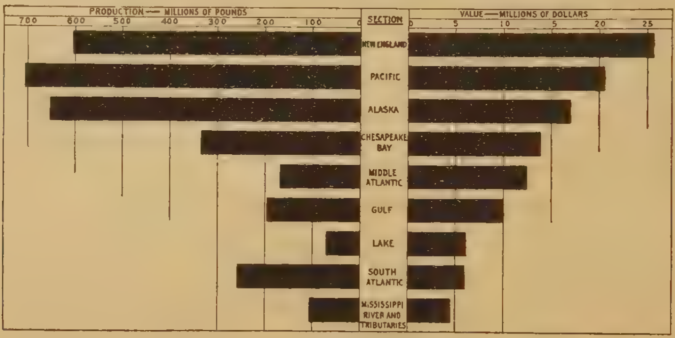

FIGURE 2.—Production and value of the fisheries of the various sections of the United States and Alaska

Since these 12 groups of products provide the backbone of our fisheries, it is important that their numbers be conserved for any diminution in the supply of any of these products is striking at the very root of our national fisheries prosperity. It is gratifying to learn that 10 of these fisheries are now under study by State or Federal Governments and by the time that this is published the remaining two will be under intensive study. Biological study of the Alaska salmon fishery and the promulgation of wise conservation measures based upon these studies already have placed this fishery on a sound foundation. So it is with the pilchard fishery of California, the oyster fishery, and the crab fishery. Headway is also being made for conservation of other fisheries.

Among the species of moderate commercial importance are 24 products whose yield makes up 15 per cent of the average annual catch. Included with this group are many whose catch in the past greatly exceeded the present yield—shad, lobster, and sturgeon being conspicuous examples. Many of the species of this group are showing increased yield as time goes on, and possibly greater numbers of these will be taken in the future.

Among the species of least importance are 108 products whose annual catch accounts for only 5 per cent of the total annual yield. In former years some species of this group would have ranked with the first group of products, especially ciscoe taken on Lake Erie. Others in this group are considered of little commercial importance, due either to their very limited supply, or to the inferior quality of the fish.

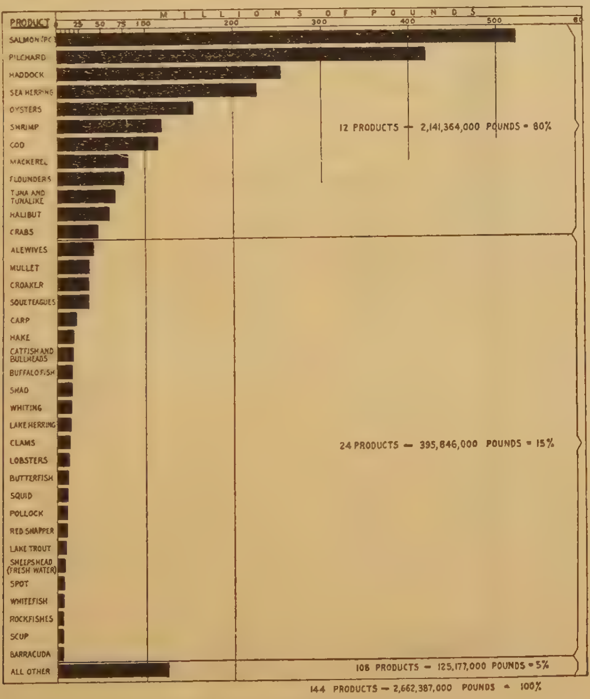

FIGURE 3.—Average annual yield of edible fishery products taken in the United States and Alaska

YIELD OF FOOD FISHERY PRODUCTS, BY VALUE

When considered from a monetary standpoint, 18 products account for 80 per cent of the value of the entire catch. Listed in order of importance they are—salmon, oysters, haddock, halibut, shrimp, lobsters, flounders, cod, tuna and tunalike fishes, mackerel, clams, shad, pilchard, squeteagues, crabs, sea herring, lake trout, and mullet. In this line-up some of those species leading in volume trail behind in value, and with others the case is vice versa. This is noted with pilchards, which are second in volume but thirteenth in value, while oysters are fifth in volume, but second in value. So it will be noted with several of the other products. In the group of moderate importance, 26 products make up 15 per cent of the value, and in the group of least importance, 100 products make up 5 per cent of the value.

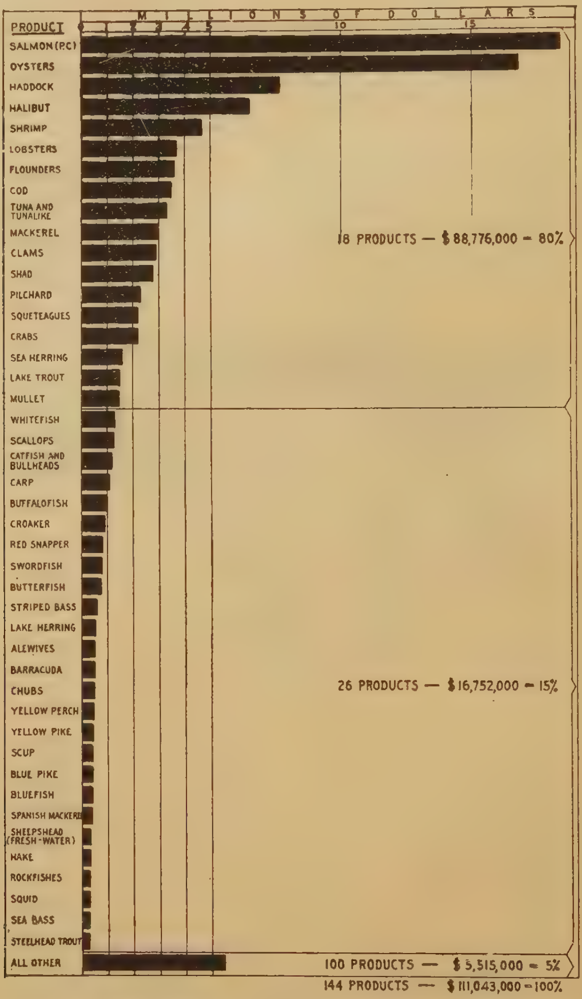

Figure 4.—Average annual value of fishery products taken in the United States and Alaska

YIELD OF NONFOOD FISHERY PRODUCTS

The yield of the nonfood group of fishery products in the United States and Alaska annually amounts to about 428,000,000 pounds, valued at $5,341,000. The most important products in this group, according to volume and value, are—menhaden and fresh-water mussel shells. Menhaden is manufactured into scrap and meal which is later used for fertilizer and feedstuffs, and into oil used chiefly in the manufacture of soap and paint. Fresh-water mussel shells are utilized mainly for the manufacture of pearl buttons and novelties. Other important products in the nonfood group are sponges and whale products.

Fisheries of the United States and Alaska

SUMMARY OF CATCH

[Expressed in thousands of pounds and thousands of dollars; that is, 000 omitted]

Products	New England, 1928		Middle Atlantic, 1926		Chesapeake, 1925		South Atlantic, 1928		Gulf, 1928	
	Quantity	*Value*	*Quantity*	*Value*	*Quantity*	*Value*	*Quantity*	*Value*	*Quantity*	*Value*
Fish	561, 104	18, 104	119, 021	4, 648	241, 221	6, 092	210, 132	3, 757	71, 375	3, 842
Shellfish, etc	42, 494	7, 516	48, 991	7, 808	91, 985	7, 856	48, 308	2, 270	123, 309	6, 193
Total	603, 598	25, 620	168, 012	12, 456	333, 206	13, 948	258, 440	6, 027	194, 684	10, 035

Products	Pacific, 1928		Mississippi River and tributaries, 1922		Lakes, 1928		Alaska, 1929		Total for the various years	
	Quantity	*Value*	*Quantity*	*Value*	*Quantity*	*Value*	*Quantity*	*Value*	*Quantity*	*Value*
Fish	686, 525	18, 652	53, 466	3, 310	63, 368	5, 961	640, 490	16, 465	2, 646, 702	80, 831
Shellfish, etc	13, 705	1, 564	52, 268	1, 194	6, 332	237	2, 008	117	429, 400	34, 755
Whale products	4, 881	296	--------	--------	--------	--------	8, 925	502	13, 806	798
Total	705, 111	20, 512	105, 734	4, 504	69, 700	6, 198	651, 423	17, 084	3, 089, 908	116, 384

OPERATING UNITS: BY SECTIONS

Items	New England, 1928	Middle Atlantic, 1926	Chesapeake, 1925	South Atlantic, 1928	Gulf,[1] 1928
	Number	*Number*	*Number*	*Number*	*Number*
Fishermen:					
On vessels	5, 649	4, 364	3, 800	1, 306	2, 400
On boats and shore	11, 010	5, 607	20, 993	10, 576	14, 232
Total	16, 659	9, 971	24, 793	11, 882	16, 632
Vessels:					
Steam	57	24	44	--------	--------
Net tonnage	8, 035	3, 038	5, 010	--------	--------
Motor	645	492	134	130	454
Net tonnage	15, 786	6, 321	1, 307	2, 521	6, 087
Sail	6	101	396	63	64
Net tonnage	188	1, 821	4, 523	568	1, 688
Total vessels	708	617	574	193	518
Total net tonnage	24, 009	11, 180	10, 840	3, 089	7, 775
Boats:					
Motor	5, 871	2, 112	8, 314	2, 809	4, 970
Other	5, 777	2, 392	8, 707	4, 650	5, 914
Apparatus:					
Haul seines	256	412	418	750	718
Purse seines	192	52	56	50	2
Otter trawls (including all types and sizes)	675	196	11	643	2, 183
Gill nets	11, 089	4, 348	22, 393	15, 236	2, 438
Trammel nets	--------	--------	--------	3	687
Pound nets, trap nets, and weirs	635	650	3, 712	2, 443	10
Stop nets	--------	84	9	--------	240
Fyke nets	463	5, 130	4, 131	795	12, 736
Bag nets and pocket nets	146	36	--------	--------	--------
Other nets [2]	179	183	1, 924	490	12, 146
Hooks, snoods, or baits	5, 109, 766	(3)	(3)	200, 990	183, 811
Fish wheels	--------	--------	--------	5	--------
Eel pots and traps	5, 273	7, 991	[4] 10, 153	1, 609	--------
Lobster pots	334, 574	28, 900	--------	--------	--------
Crab and crawfish pots, traps, drags, etc	2, 449	--------	--------	2, 052	1, 840
Clam dredges	211	--------	--------	--------	2
Crab dredges	--------	12	120	--------	--------
Mussel dredges	--------	6	--------	--------	--------
Oyster dredges	307	689	2, 442	204	404
Scallop dredges and drags	3, 627	1, 357	685	773	--------
Crab scrapes	--------	--------	1, 403	--------	--------
Tongs, rakes, hoes, forks, etc	2, 900	2, 553	13, 355	3, 280	2, 444
Sponge apparatus	--------	--------	--------	--------	299
Other apparatus [5]	1, 160	(3)	87	171	483

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[1] Includes the operating units used in the fisheries of Lake Okeechobee, Fla.

[2] Includes set nets, dip nets, scap nets, reef nets, and other minor nets.

[3] Number not determined.

[4] Includes a few pots fished for catfish in Virginia.

[5] Includes box traps, periwinkle and cockle pots, harpoons, spears, and other minor apparatus not included in "Other nets."

Fisheries of the United States and Alaska—Continued

OPERATING UNITS—BY SECTIONS—Continued

Items	Pacific, 1928	Mississippi River and tributaries, 1922	Lakes,[6] 1928	Alaska, 1929	Total for the various years
Fishermen:	*Number*	*Number*	*Number*	*Number*	*Number*
On vessels	5, 242		1, 531	[7] 10, 921	35, 213
On boats and shore	14, 491	12, 310	3, 907		93, 126
Total	19, 733	12, 310	5, 438	10, 921	128, 339
Vessels:					
Steam	6		134	8	273
Net tonnage	257		2, 953	617	19, 910
Motor	796		246	726	3, 623
Net tonnage	15, 105		2, 611	11, 992	61, 730
Sail	8				638
Net tonnage	2, 982				11, 770
Total vessels	810		380	734	4, 534
Total net tonnage	18, 344		5, 564	12, 609	93, 410
Boats:					
Motor	6, 228	4, 597	1, 475	1, 861	38, 237
Other	1, 589	10, 941	928	3, 559	44, 457
Apparatus:					
Haul seines	219	708	238	176	3, 895
Purse seines	352			703	1, 407
Lampara nets	262				262
Otter trawls (including all types and sizes)					3, 708
Beam trawls	60			9	69
Paranzella nets	18				18
Gill nets	5, 164	866	99, 348	4, 225	165, 107
Trammel nets	71	459			1, 220
Pound nets, trap nets, and weirs	750	11	7, 943	734	16, 888
Stop nets					333
Fyke nets	1, 248	49, 652	2, 455		76, 610
Bag nets and pocket nets	8				190
Other nets [8]	413				15, 335
Hooks, snoods, or baits	1, 345, 811	(3)	631, 637	(3)	(3)
Fish wheels	30			246	281
Eel pots and traps					25, 026
Lobster pots					363, 474
Shrimp nets and traps		4, 360			4, 360
Crab and crawfish pots, traps, drags, etc	20, 217		5, 255	740	32, 553
Clam dredges					213
Crab dredges					132
Mussel dredges					6
Oyster dredges					4, 046
Scallop dredges and drags					6, 442
Crab scrapes					1, 403
Tongs, rakes, hoes, forks, etc	[9] 3, 281	1, 810	244		29, 867
Crowfoot bars (pairs)		3, 490	311		3, 801
Abalone outfits	18				18
Sponge apparatus					299
Other apparatus [5]	79	(3)			(3)

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[3] Number not determined.

[5] Includes box traps, periwinkle and cockle pots, harpoons, spears, and other minor apparatus not included in "Other nets."

[6] The crawfish pots, crowfoot bars, forks, etc., are for 1922.

[7] Includes persons in shore and boat fisheries.

[8] Includes set nets, dip nets, reef nets, and other minor nets.

[9] Includes a few dredges.

NOTE.—Whaling apparatus, the number of which was not determined, was used in the Pacific and Alaska sections.

Fisheries of the United States and Alaska—Continued

CATCH: BY SECTIONS

[Expressed in thousands of pounds and thousands of dollars; that is, 000 omitted]

Species	New England, 1928		Middle Atlantic, 1926		Chesapeake, 1925		South Atlantic, 1928		Gulf,[10] 1928	
FISH	*Quantity*	*Value*	*Quantity*	*Value*	*Quantity*	*Value*	*Quantity*	*Value*	*Quantity*	*Value*
Albacore			35	1						
Alewives	4, 557	52	2, 495	47	25, 611	294	8, 180	114		
Amberjack							12	1	17	1
Angelfish and spadefish					4	(11)	26	1	78	3
Barracuda							12	(11)	4	(11)
Black bass					93	15	231	30	428	42
Bluefish	55	9	922	216	215	27	1, 407	119	449	31
Blue runner or hardtail							123	4	445	13
Bonito	68	7	598	46	304	17	10	(11)	9	(11)
Bowfin					25	1	20	(11)		
Buffalofish									129	7
Butterfish	1, 549	193	4, 089	320	6, 113	268	113	3	22	1
Cabio					3	(11)	(11)	(11)	23	1
Carp (German)	14	2	600	94	661	48	757	41		
Catfish and bullheads	1	(11)	221	19	1, 009	58	3, 830	161	3, 472	151
Cero and kingfish							2, 652	137	1, 327	70
Cigarfish									116	3
Cod	90, 336	2, 956	4, 874	233	17	(11)	(11)	(11)		
Crappie							392	28	630	19
Crevalle							215	7	86	3
Croaker			3, 358	129	25, 252	711	6, 842	105	398	18
Cusk	3, 230	91								
Drum, black			35	1	253	4	141	4	1, 269	53
Drum, red			18	(11)	130	2	450	16	2, 610	216
Eels	845	96	823	104	447	53	93	6		
Flounders	50, 274	2, 259	10, 520	609	700	46	538	30	265	26
Garfish							1	(11)	9	1
Gizzard shad					381	10	110	2		
Goldfish					3	(11)				
Grayfish	206	3	7	(11)						
Groupers							157	7	4, 241	131
Grunts							46	2	36	1
Haddock	237, 708	7, 048	17, 023	597	2	(11)				
Hake	17, 506	322	627	16	12	(11)	(11)	(11)		
Halibut	4, 257	643	10	4						
Harvestfish					747	27	782	20		
Herring, sea	70, 555	475	238	7						
Hickory shad	10	1	19	1	256	12	501	29		
Hog-choker					24	1				
Hogfish							3	(11)	2	(11)
Jewfish							17	1	136	7
King whiting	3	(11)	101	16	126	9	1, 274	56	191	8
Ladyfish							3	(11)	359	9
Mackerel	42, 722	2, 186	2, 946	196	21	2				
Menhaden	5, 175	73	39, 891	162	150, 493	1, 435	150, 843	584	5, 857	39
Moonfish							(11)	(11)	1	(11)
Mullet and mullet roe			29	2	137	9	9, 376	420	26, 447	1, 113
Mummichog			9	1						
Muttonfish							594	31	260	11
Paddlefish and paddlefish roe									3	(11)
Perch, white	12	2	198	24	1, 057	95	458	30		
Perch, yellow	(11)	(11)	64	9	311	33	175	12		
Permit							4	(11)	33	1
Pigfish					142	8	374	9	56	2
Pike (jacks) and pickerel	(11)	(11)	1	(11)	89	20	21	2		
Pilotfish			4	(11)						
Pinfish					1	(11)	179	5	23	1
Pollock	11, 040	224	126	6			(11)	(11)		
Pompano			1	(11)	5	1	292	79	441	88
Porgies							22	1	97	3
Porkfish									1	(11)
Salmon: Atlantic	31	6								
Scup	2, 859	191	3, 504	221	447	31				
Sea bass	229	23	2, 370	205	106	8	818	62	30	3
Sea robin	482	4	53	1	50	(11)				
Shad	346	38	952	234	7, 364	1, 637	4, 447	817		
Sharks	145	9	64	2	17	1	6	(11)	232	3
Sheepshead (salt water)					(11)	(11)	99	5	780	44
Sheepshead (fresh water)									7	(11)
Silversides			63	5						
Skates	1, 058	14	88	3	24	(11)				
Smelt	903	188	(11)	(11)						

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[10] Includes the catch of fish taken in Lake Okeechobee, Fla.

[11] Less than 500 pounds or dollars.

Fisheries of the United States and Alaska—Continued

CATCH: BY SECTIONS—Continued

[Expressed in thousands of pounds and thousands of dollars; that is, 000 omitted]

Species	New England, 1928		Middle Atlantic, 1926		Chesapeake, 1925		South Atlantic, 1928		Gulf,[10] 1928	
FISH—continued	*Quantity*	*Value*	*Quantity*	*Value*	*Quantity*	*Value*	*Quantity*	*Value*	*Quantity*	*Value*
Snapper, mangrove							90	5	186	7
Snapper, red							72	7	10, 391	86
Snook							251	12	601	35
Spanish mackerel			14	2	128	17	2, 250	151	3, 352	229
Spot	5	(11)	1, 758	108	1, 977	100	3, 280	77	180	7
Squeteague	114	16	9, 401	601	13, 925	669	6, 404	420	5, 340	564
Striped bass	57	9	197	48	2, 235	392	508	72		
Sturgeon and sturgeon roe	4	1	23	8	93	28	34	5	26	4
Sucker	126	11	194	28	8	(11)	16	1		
Sunfish					8	(11)	478	19	98	3
Swellfish			13	(11)	35	(11)				
Swordfish	4, 366	779	61	11						
Tang									(11)	(11)
Tautog	395	33	82	7	3	(11)				
Ten pounder									2	(11)
Thimble-eyed mackerel			122	5	19	1				
Tilefish			1, 802	111						
Tomcod and tomcod roe	27	1	58	3	18	(11)				
Tripletail					(11)	(11)	2	(11)	9	1
Tuna	286	17	144	12			(11)	(11)	1	(11)
Turbot									(11)	(11)
White bait	(11)	(11)	18	1						
Whiting	8, 378	92	7, 521	156	114	2	(11)	(11)		
Yellowtail							89	6	125	9
Miscellaneous fish	1, 170	30	637	16	6	(11)	12	1	45	(11)
Total	561, 104	18,104	119, 021	4, 648	241, 221	6, 092	210, 132	3, 757	71, 375	3, 842
SHELLFISH, ETC.										
Clams:										
Hard	2, 232	736	1, 277	626	1, 190	469	377	68	751	49
Cockle	10	3								
Surf or skimmers			59	15						
Soft	5, 470	473	409	81						
Razor	38	8								
Conchs									16	1
Crabs:										
Stone							35	4	77	12
Soft	1	(11)	163	48	3, 748	422	629	96	253	65
Hard	3, 754	92	231	14	25, 853	827	1, 553	44	4, 247	135
King			2, 888	13						
Crawfish					(11)	(11)				
Lobsters:										
Common	11, 604	3, 414	1, 119	331						
Spiny							367	29	197	15
Mussels	130	1	257	11						
Octopus							3	1		
Oysters: Eastern	9, 373	1, 883	39, 511	6, 171	60, 264	6, 022	10, 588	428	34, 942	1, 943
Periwinkles	19	3								
Scallops:										
Sea	475	163	1, 115	284					2	1
Bay	1, 278	577	300	92	361	74	1, 394	126	14	5
Shrimp	1	1	43	4	1	(11)	33, 310	1, 458	82, 170	3, 093
Squid	7, 928	157	1, 576	100	454	26				
Frogs			2	(11)						
Sponges									554	851
Terrapin			1	1	10	6	45	16	56	21
Turtles			28	3	4	(11)	7	(11)	30	2
Miscellaneous shellfish, etc	181	5	12	14	100	10				
Total	42, 494	7, 516	48, 991	7, 808	91, 985	7, 856	48, 308	2, 270	123, 309	6, 193
Grand total	603, 598	25, 620	168, 012	12, 456	333, 206	13,948	258, 440	6, 027	194, 684	10, 035

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[11] Less than 500 pounds or dollars.
[10] Includes the catch of fish taken in Lake Okeechobee, Fla.

Fisheries of the United States and Alaska—Continued

CATCH: BY SECTIONS—Continued

[Expressed in thousands of pounds and thousands of dollars; that is, 000 omitted]

Species	Pacific, 1928		Mississippi River and tributaries, 1922		Lakes,[12] 1928		Alaska, 1929		Total for the various years	
FISH	*Quantity*	*Value*	*Quantity*	*Value*	*Quantity*	*Value*	*Quantity*	*Value*	*Quantity*	*Value*
Albacore	283	42							318	43
Alewives									40, 843	507
Amberjack									29	2
Anchovies	357	4							357	4
Angelfish and spadefish									108	4
Barracuda	6, 452	506							6, 468	506
Black bass			74	11					826	98
Bluefish									3, 048	402
Blue pike					4, 843	425			4, 843	425
Blue runner or hardtail									568	17
Bonito	2, 088	68							3, 077	138
Bowfin			190	6					235	7
Buffalofish			17, 267	1, 014					17, 396	1, 021
Butterfish									11, 886	785
Burbot					584	15			584	15
Cabio									26	1
Carp (German)	727	25	18, 338	872	1, 242	60			22, 339	1, 142
Catfish and bullheads	458	64	8, 093	713	503	49			17, 587	1, 215
Cero and kingfish									3, 979	207
Chubs					5, 030	499			5, 030	499
Chubs (tullibee)					220	11			220	11
Cigarfish									116	3
Cisco					618	81			618	81
Cod	[13]17,130	294					2, 278	15	114, 635	3, 498
Crappie			512	49					1, 534	96
Crevalle									301	10
Croaker									35, 850	963
Cusk									3, 230	91
Dolly Varden trout							73	8	73	8
Drum, black									1, 698	62
Drum, red									3, 208	234
Eels	(11)	(11)	16	1					2, 224	260
Flounders	13, 332	722					1	(11)	75, 630	3, 692
Garfish									10	1
Gizzard shad									491	12
Goldfish									3	(11)
Grayfish	627	13							840	16
Groupers									4, 398	138
Grunts									82	3
Haddock									254, 733	7, 645
Hake	109	2							18, 254	340
Halibut	12, 729	1, 476					41, 619	4, 423	58, 615	6, 546
Hardhead	62	7							62	7
Harvestfish									1, 529	47
Herring, lake					14, 937	542			14, 937	542
Herring, sea	2, 676	27					153, 106	1, 148	226, 575	1, 657
Hickory shad									786	43
Hog-choker									24	1
Hogfish									5	(11)
Horse mackerel	540	18							540	18
Jewfish									153	8
Kingfish (California)	442	12							442	12
King whiting									1, 695	89
Ladyfish									362	9
Lake trout					9, 417	1, 569			9, 417	1, 569
"Lingcod"	1, 908	71					61	1	1, 969	72
Mackerel	35, 262	617							80, 951	3, 001
Menhaden									352, 259	2, 293
Moon-eye			3	(11)					3	(11)
Moonfish									1	(11)
Mullet and mullet roe	83	9							36, 072	1, 553
Mummichog									9	1
Muttonfish									854	42
Paddlefish and paddlefish roe			1, 411	163					1, 414	163
Perch, white	315	17							2, 040	168
Perch, yellow			22	2	5, 784	404			6, 356	460
Permit									37	1
Pigfish									572	19

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[11] Less than 500 pounds or dollars.
[12] Figures are for 1928 except those for shellfish, etc., which are for 1922.
[13] Dry salted cod have been converted to round weight.

Fisheries of the United States and Alaska—Continued

CATCH: BY SECTIONS—Continued

[Expressed in thousands of pounds and thousands of dollars; that is, 000 omitted]

Species	Pacific, 1928		Mississippi River and tributaries, 1922		Lakes,[12] 1928		Alaska, 1929		Total for the various years	
	Quantity	*Value*	*Quantity*	*Value*	*Quantity*	*Value*	*Quantity*	*Value*	*Quantity*	*Value*
FISH—continued										
Pike (jacks) and pickerel			20	2	531	28			662	52
Pilchard	420, 270	2, 324							420, 270	2, 324
Pilotfish									4	(11)
Pinfish									203	6
Pollock									11, 166	230
Pompano	30	4							769	172
Porgies									119	4
Porkfish									1	(11)
Quillback			765	59					765	59
Rock bass	626	44	3	(11)					629	44
Rockfishes	7, 111	335					1	(11)	7, 112	335
Sablefish	3, 532	160					694	23	4, 226	183
Salmon:										
Atlantic									31	6
Pacific—										
King, chinook or spring	33, 917	4, 674					15, 188	589	49, 105	5, 263
Red or sockeye	4, 824	913					155, 116	4, 633	159, 940	5, 546
Coho or silver	18, 524	1, 253					17, 278	418	35, 802	1, 671
Humpback or pink	1, 261	43					170, 467	3, 984	171, 728	4, 027
Chum or keta	22, 366	696					84, 552	1, 218	106, 918	1, 914
Sauger pike			5	1	1, 596	132			1, 601	133
Sculpin	100	10							100	10
Scup									6, 810	443
Sea bass	382	19							3, 935	320
Sea bass, white (California)	1, 281	165							1, 281	165
Sea robin									585	5
Shad	3, 949	119							17, 058	2, 845
Sharks									464	15
Sheepshead (salt-water)									879	49
Sheepshead (fresh-water)			5, 261	290	2, 934	81			8, 202	371
Sheepshead (Pacific coast)	373	16							373	16
Silversides									63	5
Skates	461	9							1, 631	26
Skipjack	15, 815	562							15, 815	562
Smelt	2, 341	88					8	1	3, 252	277
Snapper, mangrove									276	12
Snapper, red									10, 463	867
Snook									852	47
Spanish mackerel									5, 744	399
Splittail	11	1							11	1
Spot									7, 200	292
Squawfish	4	(11)							4	(11)
Squeteague									35, 184	2, 27
Steelhead trout	3, 446	314					48	4	3, 494	318
Striped bass	497	76							3, 494	597
Sturgeon and sturgeon roe	173	15	11	1	30	14			394	7
Sturgeon, shovel-nosed			229	23					229	23
Sucker	1	(11)	700	63	3, 995	191			5, 040	294
Sunfish			375	25					959	47
Swellfish									48	(11)
Swordfish	426	51							4, 853	84
Tang									(11)	(11)
Tautog									480	4
Ten pounder									2	(11)
Thimble-eyed mackerel									141	
Tilefish									1, 802	11
Tomcod and tomcod roe	12	(11)							115	
Tripletail									11	
Tuna	13, 701	823							14, 132	85
Turbot									(11)	(11)
White bass			65	5	286	19			351	2
White bait	135	9							153	1
Whitefish	222	14			6, 891	1, 335			7, 113	1, 34
Whiting									16, 013	25
Yellow bass			8	1					8	

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[11] Less than 500 pounds or dollars.

[12] Figures are for 1928 except those for shellfish, etc., which are for 1922.

Fisheries of the United States and Alaska—Continued

CATCH: BY SECTIONS—Continued

[Expressed in thousands of pounds and thousands of dollars; that is, 000 omitted]

Species	Pacific, 1928		Mississippi River and tributaries, 1922		Lakes,[12] 1928		Alaska, 1929		Total for the various years	
	Quantity	*Value*	*Quantity*	*Value*	*Quantity*	*Value*	*Quantity*	*Value*	*Quantity*	*Value*
FISH—continued										
Yellow pike			25	$4	2, 926	$450			2, 951	$454
Yellowfin tuna	32, 251	$1, 774							32, 251	1, 774
Yellowtail	2, 684	139							2, 898	154
Miscellaneous fish	219	8	73	5	1, 001	56			3, 163	116
Total	686, 525	18, 652	53, 466	3, 310	63, 368	5, 961	640, 490	$16,465	2, 646, 702	80, 831
SHELLFISH, ETC.										
Abalone	421	85							421	85
Clams:										
Hard	215	32							6, 042	1, 980
Cockle	3	2							13	5
Surf or skimmers									59	15
Soft	25	10							5, 904	564
Razor	1, 636	318					704	41	2, 378	367
Pismo	31	10							31	10
Mixed	16	7							16	7
Conchs									16	1
Crabs:										
Stone									112	16
Soft									4, 794	631
Hard	5, 589	419					399	36	41, 626	1, 567
King									2, 888	13
Crawfish	158	20	8	1	82	3			248	24
Lobsters:										
Common									12, 723	3, 745
Spiny	1, 077	190							1, 641	234
Mussels	(11)	(11)							387	12
Mussel shells, fresh-water			51, 768	1, 051	6, 246	218			58, 014	1, 269
Octopus	70	4							73	5
Oysters:										
Eastern	146	63							154, 824	16, 510
Western	619	315							619	315
Pearls				46		9				55
Periwinkles									19	3
Scallops:										
Sea									1, 592	448
Bay	18	5							3, 365	879
Shrimp	2, 317	43	147	15			905	40	118, 894	4, 654
Slugs				55		7				62
Squid	1, 352	41							11, 310	324
Frogs			232	20					234	20
Sponges									554	851
Terrapin	(11)	(11)							112	44
Turtles	6	(11)	97	3	1	(11)			173	8
Miscellaneous shellfish, etc	6	(11)	16	3	3	(11)			318	32
Total	13, 705	1, 564	52, 268	1, 194	6, 332	237	2, 008	117	429, 400	34, 755
WHALE PRODUCTS[13]										
Oil, sperm							358	18	358	18
Oil, whale	4, 881	296					5, 893	413	10, 774	709
Whale meal and scrap							2, 622	69	2, 622	69
Other whale products							52	2	52	2
Total	4, 881	296					8, 925	502	13, 806	798
Grand total	705, 111	20, 512	105, 734	4, 504	69, 700	6, 198	651, 423	17, 084	3, 089, 908	116, 384

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[11] Less than 500 pounds or dollars.

[12] Figures are for 1928, except those for shellfish, etc., which are for 1922.

[13] The weight of the whales caught was not determined; therefore, the weight of the manufactured products is shown.

Fisheries of the United States and Alaska—Continued

CATCH: BY STATES[14]

[Expressed in thousands of pounds and thousands of dollars; that is, 000 omitted]

States	Marine and coastal rivers		Mississippi River and tributaries		Lakes[15]		Total	
	Quantity	*Value*	*Quantity*	*Value*	*Quantity*	*Value*	*Quantity*	*Value*
Alabama	14, 466	587	1, 243	28			15, 709	615
Arkansas			22, 795	760			22, 795	760
California	588, 647	10, 325					588, 647	10, 325
Connecticut	72, 198	3, 297					72, 198	3, 297
Delaware	33, 258	1, 030					33, 258	1, 030
Florida	128, 161	6, 081			3, 677	169	131, 838	6, 250
Georgia	42, 069	866					42, 069	866
Illinois			22, 598	1, 079	578	78	23, 176	1, 157
Indiana			12, 577	437	1, 115	93	13, 692	530
Iowa			6, 761	326			6, 761	326
Kansas			615	26			615	26
Kentucky			2, 893	167			2, 893	167
Louisiana	69, 507	3, 478	10, 486	573			79, 993	4, 051
Maine	123, 326	4, 231					123, 326	4, 231
Maryland	56, 978	4, 863					56, 978	4, 863
Massachusetts	380, 169	15, 648					380, 169	15, 648
Michigan					26, 193	2, 746	26, 193	2, 746
Minnesota			5, 660	230	9, 977	445	15, 637	675
Mississippi	30, 701	1, 060	3, 328	191			34, 029	1, 251
Missouri			1, 566	104			1, 566	104
Nebraska			135	15			135	15
New Hampshire	239	46					239	46
New Jersey	73, 299	6, 254					73, 299	6, 254
New York	60, 720	5, 129			1, 902	251	62, 622	5, 380
North Carolina	141, 899	2, 629					141, 899	2, 629
Ohio			702	30	16, 865	1, 160	17, 567	1, 190
Oklahoma			363	31			363	31
Oregon	27, 474	2, 686					27, 474	2, 686
Pennsylvania	735	43	49	2	1, 958	253	2, 742	298
Rhode Island	27, 666	2, 398					27, 666	2, 398
South Carolina	7, 432	317					7, 432	317
South Dakota			101	4			101	4
Tennessee			5, 494	188			5, 494	188
Texas	15, 212	875	184	19			15, 396	894
Virginia	276, 228	9, 085					276, 228	9, 085
Washington	88, 990	7, 501					88, 990	7, 501
West Virginia			95	8			95	8
Wisconsin			8, 089	286	11, 112	1, 172	19, 201	1, 458
Alaska	651, 423	17, 084					651, 423	17, 084
Total	2, 910, 797	105, 513	105, 734	4, 504	73, 377	6, 367	3, 089, 908	116, 384

TRANSPORTING UNITS: BY SECTIONS

Items	New England, 1928	Middle Atlantic, 1926	Chesapeake, 1925	South Atlantic, 1928	Gulf, 1928	Pacific, 1928	Mississippi River and tributaries, 1922	Lakes, 1922	Alaska, 1929	Total for the various years
	Number	*Number*	*Number*	*Number*	*Number*	*Number*	*Number*	*Number*	*Number*	*Number*
Persons engaged	382	89	985	233	85	356	30	162	1, 716	4, 038
Vessels:										
Steam	4	1	1			1		6	24	37
Net tonnage	136	36	76			331		126	32, 415	33, 12
Motor	161	62	433	69	35	121	13	97	390	1, 381
Net tonnage	1, 990	924	5, 180	780	481	3, 243	214	831	14, 261	27, 90
Sail	3		89	43	2	4			2	14
Net tonnage	271		2, 907	412	23	1, 520			3, 555	8, 68
Total vessels	168	63	523	112	37	126	13	103	416	1, 56
Total net tonnage	2, 397	960	8, 163	1, 192	504	5, 094	214	957	50, 231	69, 71

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[14] Statistics for the New England States are for 1928; Middle Atlantic States, 1926; Chesapeake Bay States 1925; South Atlantic States, 1928; Gulf States, 1928; Pacific Coast States, 1928; Mississippi River and tributaries, 1922; Lake States, 1928, except that the fisheries for shellfish, etc., are for 1922; and Alaska, 1929.

[15] Includes Lake Ontario, Lake Erie, Lake Huron, Lake Michigan, Lake Superior, Rainy Lake, Namaka Lake, Lake of the Woods, Lake Okeechobee, and several mussel-bearing streams tributary to Lakes Eri and Michigan.

CANNED FISHERY PRODUCTS AND BY-PRODUCTS TRADE

The output of canned fishery products and by-products in the United States and Alaska in 1929 was valued at $124,832,711, which was greater than that for any year for which there are records. Larger packs were reported for almost every commodity. Of the total, canned products comprised $101,065,055 and by-products $23,767,656, an increase of 5 per cent in the value of canned products and 60 per cent in the value of by-products when compared with the respective values of the same groups for the previous year. (The value of by-products for 1929 is not comparable directly with that for 1928, since statistics of the output of fresh-water mussel-shell products were not obtained in the former year.)

Fishery products were canned at 497 establishments in the United States and Alaska in 1929. The combined output of these canneries amounted to 17,310,238 standard cases. The net weight of the products canned amounted to 689,446,781 pounds.

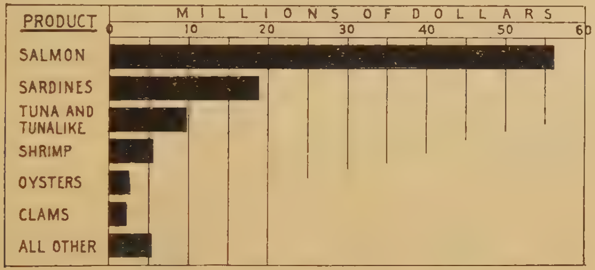

FIGURE 5.—Value of canned fishery products in the United States and Alaska, 1929

Canned fishery products or by-products were prepared in 28 States and Alaska in 1929. Alaska ranked first in value of these products, accounting for 35 per cent of the total. Salmon was the leading product canned there. California with her important sardine canning industries ranked second with 24 per cent of the total value; and Washington, with a valuable salmon canning industry, ranked third with 9 per cent of the total value. Maine, where canned sardines are the most important commodity, ranked fourth with 7 per cent of the total value. Considering the output by geographical sections, the Pacific coast and Alaska accounted for 72 per cent of the total value of canned products and by-products.

Canned fishery products and by-products of the United States and Alaska, 1929

SUMMARY OF PRODUCTION: BY COMMODITIES

Products	Number of plants	Standard cases	Pounds	Value
Canned products:				
Salmon—				
United States	52	1,620,523	77,785,104	$15,616,312
Alaska	156	5,370,159	257,767,632	40,469,385
Sardines—				
Maine and Massachusetts	38	2,025,801	50,645,025	6,897,946
California	31	3,831,215	183,898,320	11,996,997
Tuna and tunalike fishes	17	1,504,306	36,103,344	9,873,453
Mackerel	21	602,283	28,909,584	2,515,742

Canned fishery products and by-products of the United States and Alaska, 1929—Continued

SUMMARY OF PRODUCTION: BY COMMODITIES—Continued

Products	Number of plants	Standard cases	Pounds	Value
Canned products—Continued.				
Alewives	23	68, 445	3, 285, 360	$246, 773
Alewife roe	32	28, 819	1, 383, 312	188, 374
Shad	14	26, 153	1, 255, 344	122, 117
Shad roe	12	2, 732	131, 136	91, 379
Miscellaneous fish, caviar, roe, and eggs	32	231, 157	11, 095, 536	2, 022, 534
Oysters	61	519, 145	7, 787, 175	2, 732, 478
Clam products	71	554, 639	[1] 13, 612, 185	2, 548, 472
Shrimp	76	909, 949	15, 071, 948	5, 528, 792
Crabs	4	1, 151	55, 248	30, 530
Miscellaneous shellfish	7	13, 761	660, 528	183, 771
Total	[2] 497	17, 310, 238	689, 446, 781	101, 065, 055
By-products—			*Quantity*	
Oyster-shell products ... tons			334, 766	2, 524, 499
Fresh-water mussel-shell products				6, 144, 515
Scrap, meal, etc. ... tons			142, 681	6, 801, 362
Marine animal oils ... gallons			15, 353, 057	6, 801, 619
Miscellaneous by-products				1, 495, 661
Total				23, 767, 656
Grand total				124, 832, 711

[1] "Cutout" or "drained" weights of can contents are included for whole and minced clams and gross can contents for chowder, soup, bouillon, broth, juice, and cocktail.

[2] Exclusive of duplication.

VALUE OF PRODUCTION: BY STATES

States	Canned products	By-products [3]	Total
Maine	7, 984, 855	$331, 537	$8, 316, 392
Massachusetts, Rhode Island, and Connecticut	1, 893, 218	2, 321, 005	4, 214, 223
New York and New Jersey	632, 983	1, 539, 975	2, 172, 958
Pennsylvania and Delaware		495, 275	495, 275
Maryland	401, 589	388, 335	789, 924
Virginia	221, 730	1, 482, 301	1, 704, 031
North Carolina	192, 420	835, 968	1, 028, 388
South Carolina	861, 166	154, 197	1, 015, 363
Georgia and Florida	1, 535, 517	1, 230, 122	2, 765, 639
Alabama	385, 256	39, 171	424, 427
Mississippi	2, 256, 426	206, 550	2, 462, 976
Louisiana	2, 713, 029	1, 194, 742	3, 907, 771
Texas, Indiana, Winconsin, and Minnesota	430, 559	220, 335	650, 894
Michigan, Missouri, and Kentucky		65, 730	65, 730
Iowa		4, 473, 650	4, 473, 650
Washington	11, 547, 504	126, 830	11, 674, 334
Oregon	4, 798, 789	50, 200	4, 848, 989
California	24, 536, 953	5, 897, 059	30, 434, 012
Alaska	40, 673, 061	2, 714, 674	43, 387, 735
Total	101, 065, 055	23, 767, 656	124, 832, 711

[3] Including menhaden and fresh-water mussel-shell products.

Value of canned fishery products and by-products of the United States and Alaska, 1921 to 1929

Year	Canned products	By-products (including menhaden)	Total	Year	Canned products	By-products (including menhaden)	Total
1921	$46, 634, 706	$8, 351, 827	$54, 986, 533	1926	$86, 193, 240	$12, 133, 110	$98, 326, 350
1922	60, 464, 947	11, 390, 693	71, 855, 640	1927	81, 384, 133	12, 793, 256	94, 177, 389
1923	72, 445, 205	12, 634, 590	85, 079, 795	1928	95, 871, 855	14, 880, 956	110, 752, 811
1924	72, 164, 589	10, 308, 990	82, 473, 579	1929	101, 065, 055	23, 767, 656	124, 832, 711
1925	80, 577, 138	14, 600, 198	95, 177, 336				

CANNED PRODUCTS

The value of fishery products canned in 1929 was 5 per cent greater than in the previous year. Salmon was the most important item and contributed 55 per cent to the total value. Sardines were next with 19 per cent and tuna followed with 10 per cent. The remainder of the total value was made up mainly by shrimp, oysters, clam products, and mackerel.

Pack of canned fishery products, standard cases, 1921 to 1929

Year	Salmon						Sardines: Maine and Massachusetts	
	Pacific Coast States		Alaska		Total			
	Cases	*Value*	*Cases*	*Value*	*Cases*	*Value*	*Cases*	*Value*
1921	1,002,948	$9,234,425	2,596,826	$19,632,744	3,599,774	$28,867,169	1,399,507	$3,960,916
1922	733,246	8,633,524	4,501,652	29,787,193	5,234,898	38,420,717	1,869,719	5,750,109
1923	1,367,263	12,660,566	5,035,697	32,873,007	6,402,960	45,533,573	1,272,277	5,288,865
1924	958,662	9,394,467	5,294,915	33,007,135	6,253,577	42,401,602	1,899,925	7,191,026
1925	1,558,613	15,379,976	4,459,937	31,989,531	6,018,550	47,369,507	1,870,786	6,716,701
1926	835,738	10,139,302	6,652,882	46,080,004	7,488,620	56,219,306	1,717,537	6,727,388
1927	1,504,451	15,712,497	3,572,128	30,016,264	5,076,579	45,728,761	1,262,124	5,249,030
1928	842,903	9,254,258	6,083,903	45,383,885	6,926,806	54,638,143	2,055,763	8,076,546
1929	1,620,523	15,616,312	5,370,159	40,469,385	6,990,682	56,085,697	2,025,801	6,897,946

Year	Sardines: California		Tuna and tunalike fishes		Oysters	
	Cases	*Value*	*Cases*	*Value*	*Cases*	*Value*
1921	398,668	$2,346,446	549,150	$3,074,626	442,086	$2,179,271
1922	715,364	3,361,480	672,321	4,511,873	505,973	2,423,616
1923	1,100,162	4,607,931	817,836	6,914,760	524,544	2,720,073
1924	1,367,139	5,445,573	652,416	5,756,586	447,481	2,478,044
1925	1,714,913	6,380,617	1,102,471	8,499,080	654,755	3,721,159
1926	2,093,278	7,807,404	851,199	5,282,283	413,834	2,026,569
1927	2,563,146	9,268,784	1,255,818	8,368,227	447,297	2,367,949
1928	2,771,527	9,658,822	1,216,222	8,374,030	503,952	2,760,576
1929	3,831,215	11,996,997	1,504,306	9,873,453	519,145	2,732,478

Year	Shrimp		Clam products		Miscellaneous fishery products: Fish roe, caviar, and eggs	
	Cases	*Value*	*Cases*	*Value*	*Cases*	*Value*
1921	655,364	$3,804,781	(1)	$1,166,507	(1)	(1)
1922	579,797	3,064,087	(1)	1,716,365	(1)	(1)
1923	700,429	4,381,534	(1)	1,710,616	(1)	(1)
1924	718,517	4,608,950	(1)	2,161,389	(1)	(1)
1925	735,714	3,782,819	(1)	1,850,378	(1)	(1)
1926	732,365	4,122,092	(1)	2,004,650	(1)	(1)
1927	852,764	5,321,652	525,286	2,744,954	57,586	$477,415
1928	851,831	5,181,547	531,640	2,623,598	78,394	681,150
1929	909,949	5,528,792	554,639	2,548,472	46,501	502,040

Year	Miscellaneous fishery products						Grand total
	Other fish		Other shellfish		Total		
	Cases	*Value*	*Cases*	*Value*	*Cases*	*Value*	*Value*
1921	(1)	(1)	(1)	(1)	(1)	$1,234,990	$46,634,706
1922	(1)	(1)	(1)	(1)	(1)	1,216,700	60,464,947
1923	(1)	(1)	(1)	(1)	(1)	1,287,853	72,445,205
1924	(1)	(1)	(1)	(1)	(1)	2,121,419	72,164,589
1925	(1)	(1)	(1)	(1)	(1)	2,256,877	80,577,138
1926	(1)	(1)	(1)	(1)	(1)	2,003,548	86,193,240
1927	236,579	$1,765,888	4,479	$91,473	298,644	2,334,776	81,384,133
1928	683,255	3,703,918	10,590	173,525	772,239	4,558,593	95,871,855
1929	913,088	4,684,879	14,912	214,301	974,501	5,401,220	101,065,055

[1] Not enumerated separately prior to 1927.

SALMON

In 1929, salmon were canned at 156 plants in Alaska, 36 in Washington, 15 in Oregon, and 1 in California. Compared with the previous year there was an increase of 3 plants in Alaska and 1 in Washington, and a decrease of 2 in Oregon and 1 in California. The combined output of the 208 plants amounted to 6,990,682 standard cases of forty-eight 1-pound cans valued at $56,085,697. Of the total, 1,620,523 cases valued at $15,616,312 were packed in the Pacific Coast States, and 5,370,159 cases valued at $40,469,385 in Alaska. The pack for the Pacific Coast States was 92 per cent greater than in the year previous due mainly to the larger pack in Puget Sound of humpback or pink salmon, as 1929 was a "good" year. Compared with 1927, the previous "good" year, there was an increase of 8 per cent in the pack. The pack in Alaska was 12 per cent less than in the previous year.

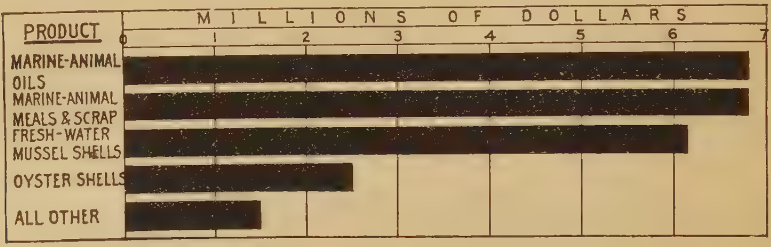

FIGURE 6.—Value of fishery by-products in the United States and Alaska, 1929

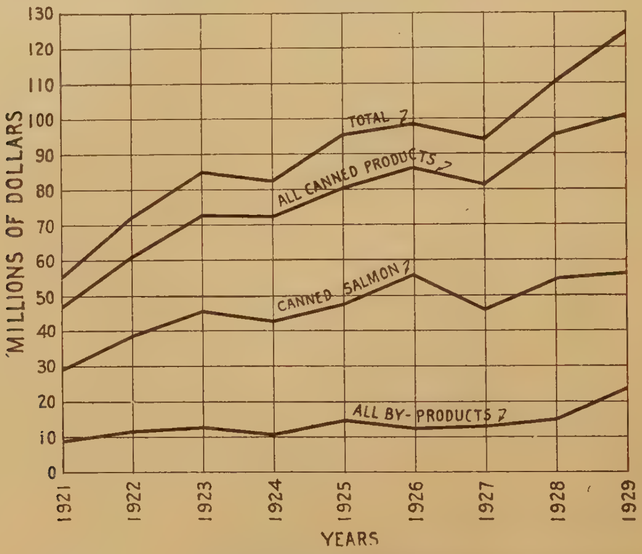

FIGURE 7.—Value of canned fishery products and by-products in the United States and Alaska, 1921 to 1929

The world pack of canned salmon in 1929 amounted to 10,058,155 cases, which was a decrease of 6 per cent, as compared with that of the previous year. Of the total, 6,990,682 cases, or 70 per cent of the total, were packed in the United States and Alaska; 1,400,750 cases, or 14 per cent in British Columbia; 1,031,298 cases, or 10 per cent in Siberia; and 635,425 cases (estimated), or 6 per cent in Japan.

Compared with the pack in 1928, there was an increase of 1 per cent in the pack in the United States and Alaska, a decrease of 31 per cent in British Columbia, a decrease of 30 per cent in Siberia, and an increase of 190 per cent in Japan. Statistics of the pack in Siberia and Japan were obtained from the 1930 annual statistical number of the Pacific Fisherman.

Pack of canned salmon, Pacific Coast States and Alaska, 1929, standard cases

Products	Alaska							
	Southeast		Central		Western		Total	
	Cases	*Value*	*Cases*	*Value*	*Cases*	*Value*	*Cases*	*Value*
King, chinook, or spring:								
1-pound tall	1,382	$10,924	6,812	$57,818	20,785	$176,135	28,979	$244,877
1-pound flat	5,031	66,741	14,600	215,026	7,177	74,885	26,808	356,652
½-pound flat	587	8,713	14,249	222,842	1,484	26,712	16,320	258,267
Total	7,000	86,378	35,661	495,686	29,446	277,732	72,107	859,796
Red or sockeye:								
1-pound tall	102,511	1,073,685	371,875	3,773,115	1,040,079	10,735,352	1,514,465	15,582,152
1-pound flat	24,194	286,724	43,991	539,849	7,141	79,761	75,326	906,334
½-pound flat	36,247	554,968	38,220	622,898	25,669	438,073	100,136	1,615,939
Total	162,952	1,915,377	454,086	4,935,862	1,072,889	11,253,186	1,689,927	18,104.425
Coho or silver:								
1-pound tall	88,143	664,565	66,424	485,214	2,779	20,151	157,346	1,169,930
1-pound flat	4,488	34,919	2,242	15,997			6,730	50,916
½-pound flat	5,216	55,692	2,664	27,919			7,880	83,611
Total	97,847	755,176	71,330	529,130	2,779	20,151	171,956	1,304,457
Humpback or pink:								
1-pound tall	1,499,761	8,998,967	1,019,834	6,158,172	3,390	17,720	2,522,985	15,174,859
1-pound flat	3,894	27,131	16	96			3,910	27,227
½-pound flat	38,960	304,108	5,802	73,162			44,762	377,270
Total	1,542,615	9,330,206	1,025,652	6,231,430	3,390	17,720	2,571,657	15,579,356
Chum or keta:								
1-pound tall	286,832	1,546,498	496,778	2,638,902	75,941	402,090	859,551	4,587,490
½-pound flat	3,965	26,886	996	6,975			4,961	33,861
Total	290,797	1,573,384	497,774	2,645,877	75,941	402,090	864,512	4,621,351
Grand total	2,101,211	13,660,521	2,084,503	14,837,985	1,184,445	11,970,879	5,370,159	40,469,385

Products	United States						Grand total, Alaska and United States	
	Washington		Oregon and California		Total			
	Cases	*Value*	*Cases*	*Value*	*Cases*	*Value*	*Cases*	*Value*
King, chinook, or spring:								
1-pound tall	12,975	$102,450	8,535	$47,410	21,510	$149,860	50,489	$394,737
1-pound oval	3,871	61,377	2,991	68,793	6,862	130,170	6,862	130,170
1-pound flat	13,394	213,620	43,180	656,968	56,574	870,588	83,382	1,227,240
½-pound oval	193	5,790	316	9,480	509	15,270	509	15,270
½-pound flat	66,257	1,224.490	128,045	2,350,834	194,302	3,575,324	210,622	3,833,591
Total	96,690	1,607,727	183,067	3,133,485	279,757	4,741,212	351,864	5,601,008
Red or sockeye:								
1-pound tall	2,466	27,619			2,466	27,619	1,516,931	15,609,771
1-pound flat	16,420	197,040			16,420	197,040	91,746	1,103.374
½-pound flat	104,136	1,874,448	6,193	111,474	110,329	1,985,922	210,465	3,601,861
Total	123,022	2,099,107	6,193	111,474	129,215	2,210,581	1,819,142	20,315,006

Pack of canned salmon, Pacific Coast States and Alaska, 1929, standard cases—Con.

Products	United States						Grand total, Alaska and United States	
	Washington		Oregon and California		Total			
	Cases	*Value*	*Cases*	*Value*	*Cases*	*Value*	*Cases*	*Value*
Coho or silver:								
1-pound tall	44, 098	$352, 784	7, 218	$57, 744	51, 316	$410, 528	208, 662	$1, 580, 458
1-pound oval	3, 443	48, 202			3, 443	48, 202	3, 443	48, 202
1-pound flat	31, 136	280, 224	19, 396	174, 564	50, 532	454, 788	57, 262	505, 704
½-pound flat	35, 132	407, 531	[1] 58, 355	718, 001	93, 487	1, 125, 532	101, 367	1, 209, 143
Total	113, 809	1, 088, 741	84, 969	950, 309	198, 778	2, 039, 050	370, 734	3, 343, 507
Humpback or pink:								
1-pound tall	618, 547	3, 958, 701			618, 547	3, 958, 701	3, 141, 532	19, 133, 560
1-pound flat	17, 610	112, 704			17, 610	112, 704	21, 520	139, 931
½-pound flat	91, 503	805, 226			91, 503	805, 226	136, 265	1, 182, 496
Total	727, 660	4, 876, 631			727, 660	4, 876, 631	3, 299, 317	20, 455, 987
Chum or keta:								
1-pound tall	185, 028	962, 146	42, 080	218, 816	227, 108	1, 180, 962	1, 086, 659	5, 768, 452
1-pound flat			347	1, 804	347	1, 804	347	1, 804
½-pound flat	23, 739	161, 425	10, 912	74, 202	34, 651	235, 627	39, 612	269, 488
Total	208, 767	1, 123, 571	53, 339	294, 822	262, 106	1, 418, 393	1, 126, 618	6, 039, 744
Steelhead:								
1-pound tall	89	712			89	712	89	712
1-pound flat	1, 103	8, 824	3, 073	24, 584	4, 176	33, 408	4, 176	33, 408
½-pound oval	1, 652	33, 040	1, 991	39, 820	3, 643	72, 860	3, 643	72, 860
½-pound flat	5, 680	84, 064	9, 419	139, 401	15, 099	223, 465	15, 099	223, 465
Total	8, 524	126, 640	14, 483	203, 805	23, 007	330, 445	23, 007	330, 445
Grand total	1, 278, 472	10, 922, 417	342, 051	4, 693, 895	1, 620, 523	15, 616, 312	6, 990, 682	56, 085, 697

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[1] Includes a few cases packed in quarter-pound cans.

NOTE.—"Standard cases" represent the various-sized cases converted to the equivalent of forty-eight 1-pound cans to the case.

Pack of canned salmon in the Pacific Coast States, 1921 to 1929

Year	King, chinook, or spring		Red or sockeye		Coho or silver		Humpback or pink	
	Cases	*Value*	*Cases*	*Value*	*Cases*	*Value*	*Cases*	*Value*
1921	335, 854	$4, 527, 711	104, 954	$1, 905, 647	111, 643	$806, 678	402, 846	$1, 732, 847
1922	314, 126	4, 572, 607	97, 927	1, 816, 901	204, 252	1, 533, 173	3, 551	18, 546
1923	384, 705	5, 790, 419	105, 336	1, 955, 549	245, 548	1, 608, 627	445, 175	2, 211, 742
1924	349, 014	4, 599, 759	85, 800	1, 478, 698	231, 139	1, 774, 078	12, 778	79, 436
1925	432, 638	5, 990, 019	118, 387	2, 065, 975	307, 567	3, 313, 060	551, 375	3, 152, 342
1926	349, 600	5, 281, 404	75, 711	1, 474, 722	228, 141	2, 223, 499	2, 608	19, 609
1927	405, 319	6, 192, 368	123, 826	2, 170, 385	210, 537	2, 212, 763	586, 598	3, 865, 797
1928	282, 867	4, 645, 366	73, 204	1, 075, 826	152, 137	1, 344, 796	6, 101	45, 464
1929	279, 757	4, 741, 212	129, 215	2, 210, 581	198, 778	2, 039, 050	727, 660	4, 876, 631

Year	Chum or keta		Steelhead		Total	
	Cases	*Value*	*Cases*	*Value*	*Cases*	*Value*
1921	35, 132	$127, 659	12, 519	$133, 883	1, 002, 948	$9, 234, 425
1922	87, 583	365, 303	25, 797	326, 994	733, 246	8, 633, 524
1923	154, 342	769, 839	32, 157	324, 390	1, 367, 263	12, 660, 566
1924	247, 858	1, 192, 156	32, 073	270, 340	958, 662	9, 394, 467
1925	133, 368	641, 310	15, 278	217, 270	1, 558, 613	15, 379, 976
1926	148, 732	758, 843	30, 946	381, 225	835, 738	10, 139, 302
1927	145, 356	852, 120	32, 815	419, 064	1, 504, 451	15, 712, 497
1928	309, 536	1, 880, 405	19, 058	262, 401	842, 903	9, 254, 258
1929	262, 106	1, 418, 393	23, 007	330, 445	1, 620, 523	15, 616, 312

NOTE.—Shown in standard cases of forty-eight 1-pound cans.

Pack of canned salmon in Alaska, 1921 to 1929

Year	King, chinook, or spring		Red or sockeye		Coho or silver		Humpback or pink		Chum or keta		Total	
	Cases	*Value*	*Cases*	*Value*	*Cases*	*Value*	*Cases*	*Value*	*Cases*	*Value*	*Cases*	*Value*
1921	44, 994	$459, 897	1, 765, 798	$15, 841, 404	106, 555	$600, 140	423, 984	$1, 788, 778	255, 495	$942, 525	2, 596, 826	$19, 632, 744
1922	30, 660	247, 673	2, 070, 658	19, 135, 696	175, 993	962, 790	1, 658, 423	7, 189, 494	565, 918	2, 251, 540	4, 501, 652	29, 787, 193
1923	38, 343	328, 270	1, 859, 496	17, 253, 792	164, 107	943, 318	2, 448, 129	11, 899, 956	525, 622	2, 447, 671	5, 035, 697	32, 873, 007
1924	33, 648	299, 009	1, 447, 895	13, 803, 932	183, 601	1, 254, 551	2, 601, 283	12, 837, 346	1, 028, 488	4, 812, 297	5, 294, 915	33, 007, 135
1925	49, 978	595, 041	1, 059, 676	13, 904, 599	161, 010	1, 565, 759	2, 110, 593	11, 137, 102	1, 078, 680	4, 787, 030	4, 459, 937	31, 989, 531
1926	52, 476	544, 246	2, 157, 087	21, 328, 739	202, 527	1, 700, 563	3, 338, 349	17, 987, 527	902, 443	4, 518, 929	6, 652, 882	46, 080, 004
1927	70, 391	791, 653	1, 320, 195	15, 954, 485	253, 044	2, 153, 956	1, 420, 775	8, 338, 690	507, 723	2, 777, 480	3, 572, 128	30, 016, 264
1928	54, 159	602, 808	1, 948, 094	18, 333, 792	298, 623	2, 125, 289	2, 787, 242	18, 285, 530	995, 785	6, 036, 466	6, 083, 903	45, 383, 885
1929	72, 107	859, 796	1, 689, 927	18, 104, 425	171, 956	1, 304, 457	2, 571, 657	15, 579, 356	864, 512	4, 621, 351	5, 370, 159	40, 469, 385

NOTE.—Shown in standard cases of forty-eight 1-pound cans.

Pack of canned salmon in the United States and Alaska, 1921 to 1929

Year	Pacific Coast States		Alaska		Total	
	Cases	*Value*	*Cases*	*Value*	*Cases*	*Value*
1921	1, 002, 948	$9, 234, 425	2, 596, 826	$19, 632, 744	3, 599, 774	$28, 867, 169
1922	733, 246	8, 633, 524	4, 501, 652	29, 787, 193	5, 234, 898	38, 420, 717
1923	1, 367, 263	12, 660, 566	5, 035, 697	32, 873, 007	6, 402, 960	45, 533, 573
1924	958, 662	9, 394, 467	5, 294, 915	33, 007, 135	6, 253, 577	42, 401, 602
1925	1, 558, 613	15, 379, 976	4, 459, 937	31, 989, 531	6, 018, 550	47, 369, 507
1926	835, 738	10, 139, 302	6, 652, 882	46, 080, 004	7, 488, 620	56, 219, 306
1927	1, 504, 451	15, 712, 497	3, 572, 128	30, 016, 264	5, 076, 579	45, 728, 761
1928	842, 903	9, 254, 258	6, 083, 903	45, 383, 885	6, 926, 806	54, 638, 143
1929	1, 620, 523	15, 616, 312	5, 370, 159	40, 469, 385	6, 990, 682	56, 085, 697

NOTE.—Shown in standard cases of forty-eight 1-pound cans.

SARDINES

In 1929 packs of sardines were reported by 37 plants in Maine, 1 in Massachusetts, and 31 in California. This is a decrease of 1 plant in Maine, an increase of 1 in Massachusetts, since none operated in this State in the previous year, and an increase of 3 plants in California. The production of sardines in Maine and Massachusetts amounted to 2,025,801 standard cases of one hundred ¼-pound cans valued at $6,897,946, which is a decrease of 1 per cent in quantity and 15 per cent in value as compared with the pack of the previous year. In California, the production amounted to 3,831,215 standard cases of forty-eight 1-pound cans valued at $11,996,997, which is an increase of 38 per cent in quantity and 24 per cent in value. The production in Maine was considerably above the average for the period 1921 to 1928, while that in California was over 1,000,000 cases greater than in any year during this period.

Pack of canned sardines, 1929

Sardines (herring)	Maine and Massachusetts	
	Cases	*Value*
In olive oil: Quarters, ¼-pound (100 cans)	15,233	$88,850
In cottonseed oil: Quarters, ¼-pound (100 cans)	1,586,072	5,509,175
In mustard:		
Quarters, ¼-pound (100 cans)	187,441	718,034
Three-quarters, ¾-pound (48 cans)	146,678	472,436
In tomato sauce: Quarters, ¼-pound (100 cans)[1]	25,839	109,451
Total	1,961,263	6,897,946
Total (standard cases)	2,025,801	----------

Sardines (pilchard)	California	
	Cases	*Value*
½-pound oval (48 cans):		
In tomato sauce	24,055	$66,286
In mustard	524	1,221
In olive oil	1,296	3,900
In other sauces and oils	378	759
1-pound oval (48 cans):		
In tomato sauce	3,286,199	10,011,904
In mustard	158,155	498,208
In cottonseed oil	13,408	39,593
In natural oil	3,840	11,947
Soused	4,860	14,694
In other sauces and oils	536	1,663
¼-pound square (100 cans):		
In tomato sauce	370	2,337
In olive oil	10,623	101,898
In other sauces and oils	399	2,472
1-pound tall (48 cans):		
In tomato sauce	4,654	11,080
In natural oil	105,904	274,614
In other sauces and oils	18,267	57,884
Other sizes, various sauces and oils (standard cases)	216,333	896,537
Total	3,849,801	11,996,997
Total (standard cases)	3,831,215	----------

[1] Includes a few cases packed in 12-ounce cans, 48 to the case, which have been converted to the equivalent of quarter-size cans, 100 to the case.

NOTE.—"Standard cases" represent the various sized cases converted to the uniform basis of one hundred ¼-pound cans to the case of sardines (herring), and forty-eight 1-pound cans to the case of sardines (pilchard).

Pack of canned sardines, 1921 to 1929

Year	Maine and Massachusetts		California	
	Cases	*Value*	*Cases*	*Value*
1921	1,399,507	$3,960,916	398,668	$2,346,446
1922	1,869,719	5,750,109	715,364	3,361,480
1923	1,272,277	5,288,865	1,100,162	4,607,931
1924	1,899,925	7,191,026	1,367,139	5,445,573
1925	1,870,786	6,716,701	1,714,913	6,380,617
1926	1,717,537	6,727,388	2,093,278	7,807,404
1927	1,262,124	5,249,030	2,563,146	9,268,784
1928	[1] 2,055,763	8,076,546	2,771,527	9,658,822
1929	2,025,801	6,897,946	3,831,215	11,996,997

[1] Maine only. None packed in Massachusetts.

NOTE.—Shown in standard cases of one hundred ¼-pound cans for Maine and Massachusetts and forty-eight 1-pound cans for California.

TUNA AND TUNALIKE FISHES

In 1929, these fishes were canned at 17 plants in California. This is an increase of 1 plant as compared with those operating last year. The total pack was 1,504,306 standard cases of forty-eight ½-pound cans valued at $9,873,453. This is an increase of 24 per cent in quantity and 18 per cent in value as compared with the pack of the previous year. The pack was larger than in any year during the period 1921 to 1928.

Pack of canned tuna and tunalike fishes in California, 1929

Sizes	Albacore		Yellowfin		Bluefin	
	Cases	*Value*	*Cases*	*Value*	*Cases*	*Value*
¼-pound round (48 cans) [1]	11, 422	$63, 867	112, 026	$471, 121	16, 041	$67, 362
½-pound round (48 cans) [2]	106, 903	1, 100, 775	416, 905	2, 704, 197	65, 078	409, 510
1-pound round (48 cans) [3]	14, 576	274, 763	63, 556	757, 340	12, 019	142, 503
Flakes (standard cases)	6, 729	38, 652	61, 397	261, 295	4, 938	20, 693
Total	139, 630	1, 478, 057	653, 884	4, 193, 953	98, 076	640, 068
Total (standard cases)	148, 496		661, 427		102, 074	

Sizes	Striped		Mixed yellowfin and bluefin [4]		"Tonno" [5]	
	Cases	*Value*	*Cases*	*Value*	*Cases*	*Value*
¼-pound round (48 cans) [1]	56, 692	$215, 622	5, 587	$22, 703	196, 144	$833, 570
½-pound round (48 cans) [2]	298, 935	1, 605, 482	11, 274	78, 918	18, 195	145, 234
1-pound round (48 cans) [3]	22, 055	222, 079	1, 252	16, 276	929	13, 316
Flakes (standard cases)	14, 983	63, 584	13, 279	55, 905		
Total	392, 665	2, 106, 767	31, 392	173, 802	215, 268	992, 120
Total (standard cases)	386, 374		29, 851		118, 125	

Sizes	Bonito		Yellowtail		Total	
	Cases	*Value*	*Cases*	*Value*	*Cases*	*Value*
¼-pound round (48 cans) [1]	9, 921	$36, 661	1, 074	$2, 953	408, 907	$1, 713, 859
½-pound round (48 cans) [2]	19, 657	103, 933	5, 655	26, 564	942, 602	6, 174, 613
1-pound round (48 cans) [3]	5, 086	46, 056	8, 489	72, 519	127, 962	1, 544, 852
Flakes (standard cases)					101, 326	440, 129
Total	34, 664	186, 650	15, 218	102, 036	1, 580, 797	9, 873, 453
Total (standard cases)	34, 789		23, 170		1, 504, 306	

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[1] Includes the pack in ½-pound cans, 96 to the case, ¼-pound cans, 96 and 100 to the case, and 5½-ounce glass jars, 48 to the case, which have been converted to the equivalent of ¼-pound round cans, 48 to the case.

[2] Includes the pack in ½-pound cans, 100 to the case, and 7-ounce glass jars, 24 to the case, which have been converted to the equivalent of ½-pound round cans, 48 to the case.

[3] Includes the pack in 4-pound cans, 12 to the case, which have been converted to the equivalent of 1-pound round cans, 48 to the case.

[4] Includes a few cases of mixed tuna of other varieties.

[5] Manufactured chiefly from bluefin tuna. All are packed in olive oil and the greater part marketed in square cans.

NOTE.—"Standard cases" represent the various sized cases converted to the equivalent of forty-eight ½-pound cans to the case.

Pack of canned tuna and tunalike fishes, 1921 to 1929

Year	Albacore		Bluefin and yellowfin tuna		Striped tuna		"Tonno"	
	Cases	*Value*	*Cases*	*Value*	*Cases*	*Value*	*Cases*	*Value*
1921	456, 152	$2, 657, 266	64, 816	$306, 486	27, 972	$109, 929		
1922	296, 210	2, 304, 935	168, 874	1, 047, 621	177, 995	942, 356	13, 714	$139, 067
1923	310, 037	3, 106, 329	261, 773	1, 959, 812	96, 452	578, 254	124, 416	1, 136, 814
1924	416, 820	4, 024, 509	65, 941	455, 048	43, 159	239, 198	97, 304	861, 861
1925	[1] 518, 079	4, 412, 655	261, 482	1, 745, 338	168, 177	997, 697	131, 159	1, 212, 024
1926 [2]	61, 197	471, 502	287, 699	1, 718, 744	290, 278	1, 525, 146	137, 720	1, 209, 041
1927	131, 157	1, 118, 985	533, 691	3, 594, 195	414, 314	2, 362, 587	116, 335	979, 860
1928	105, 722	1, 027, 289	[3] 743, 536	4, 976, 855	201, 816	1, 098, 822	126, 959	1, 068, 299
1929	148, 496	1, 478, 057	[3] 794, 893	5, 007, 823	386, 374	2, 106, 767	118, 125	992, 120

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[1] Includes 27,489 cases of tuna flakes, valued at $120,637.

[2] Includes 25,353 cases of tuna flakes, valued at $102,129, which have been credited to the various species as packed.

[3] Includes a few cases of mixed tuna of other varieties.

Pack of canned tuna and tunalike fishes, 1921 to 1929—Continued

Year	Bonito		Yellowtail		Total	
	Cases	*Value*	*Cases*	*Value*	*Cases*	*Value*
1921			210	$945	549, 150	$3, 074, 626
1922	10, 810	$58, 900	4, 718	18, 994	672, 321	4, 511, 873
1923	15, 099	77, 906	10, 059	55, 645	817, 836	6, 914, 760
1924	12, 899	94, 806	16, 293	81, 164	652, 416	5, 756, 586
1925	10, 090	61, 207	13, 484	70, 159	1, 102, 471	8, 499, 080
1926 [2]	48, 113	259, 204	26, 192	98, 646	851, 199	5, 282, 283
1927	18, 587	111, 253	41, 734	201, 347	1, 255, 818	8, 368, 227
1928	24, 112	123, 242	14, 077	79, 523	1, 216, 222	8, 374, 030
1929	34, 789	186, 650	23, 170	102, 036	1, 504, 306	9, 873, 453

[2] Includes 25,253 cases of tuna flakes, valued at $102,129, which have been credited to the various species as packed.

NOTE.—Shown in standard cases of forty-eight ½-pound cans.

MACKEREL

In 1929 mackerel were canned at 18 plants in California, and 3 plants in Massachusetts. An equal number of plants operated in California last year. However, there is a decrease of 1 plant in Massachusetts. The total production amounted to 602,283 standard cases of forty-eight 1-pound cans valued at $2,515,742. This is an increase of 51 per cent in quantity and 47 per cent in value as compared with the pack and its value for 1928. This is by far the largest pack of mackerel on record.

Pack of canned mackerel, 1929

Sizes	Massachusetts		California		Total	
	Cases	*Value*	*Cases*	*Value*	*Cases*	*Value*
8-ounce (48 cans)			[1] 46, 871	$137, 268	46, 871	$137, 268
14-ounce (24 cans)	[2] 22, 473	$87, 684			22, 473	87, 684
16-ounce (48 cans)			569, 016	2, 290, 790	569, 016	2, 290, 790
Total	22, 473	87, 684	615, 887	2, 428, 058	638, 360	2, 515, 742
Total (standard cases)	9, 832		592, 451		602, 283	

[1] Includes a few cases packed in 8-ounce cans, 72 to the case, which have been converted to the equivalent of 8-ounce cans, 48 to the case.

[2] Includes a few cases packed in 8-ounce cans, 24 to the case, which have been converted to the equivalent of 14-ounce cans, 24 to the case.

NOTE.—"Standard cases" represent the various sized cases converted to the equivalent of forty-eight 1-pound cans to the case.

Pack of canned mackerel, 1928 and 1929

Year	Massachusetts		California		Total	
	Cases	*Value*	*Cases*	*Value*	*Cases*	*Value*
1928	10, 382	$92, 425	388, 521	$1, 621, 595	398, 903	$1, 714, 020
1929	9, 832	87, 684	592, 451	2, 428, 058	602, 283	2, 515, 742

NOTE.—Shown in standard cases of forty-eight 1-pound cans to the case.

ALEWIFE PRODUCTS

In 1929 alewives or alewife roe were canned at 9 plants in Maryland, 21 in Virginia, and 2 in North Carolina—a total of 32 plants or 4 more than in 1928. The output consisted of 68,445 standard cases of canned alewives valued at $246,773 and 28,819 cases of alewife roe valued at $188,374—a total of 97,264 standard cases of forty-eight 1-pound cans valued at $435,147. Considering the total production there was a decrease of 9 per cent in quantity and 1 per cent in value, as compared with that of the previous year. With the exception of the pack in 1928, that for 1929 was larger than the production during any year during the period from 1921 to 1928.

Pack of canned alewives and alewife roe, 1929

STANDARD CASES

Products	Maryland		Virginia and North Carolina		Total	
	Cases	*Value*	*Cases*	*Value*	*Cases*	*Value*
Alewives	37, 181	$146, 984	31, 264	$99, 789	68, 445	$246, 773
Alewife roe	9, 302	69, 739	19, 517	118, 635	28, 819	188, 374
Total	46, 483	216, 723	50, 781	218, 424	97, 264	435, 147

ACTUAL CASES

Products and sizes	Cases	Value
Alewives:		
8-ounce (48 cans)	4, 242	$6, 328
15 and 16 ounce (48 cans)	46, 320	152, 920
17-ounce (24 cans)	14, 561	23, 742
18 and 19 ounce (24 cans)	22, 310	63, 783
Total	87, 433	246, 773
Alewife roe:		
7½, 8, and 8½ ounce (48 cans)	13, 859	53, 110
10-ounce (48 cans)	3, 487	13, 153
Alewife roe—Continued.		
15 and 16 ounce (24 cans)	7, 649	$25, 572
17-ounce (24 cans)	20, 903	64, 257
18-ounce (24 cans)	3, 266	9, 612
19-ounce (24 cans)	4, 800	22, 670
Total	53, 964	188, 374
Grand total	141, 397	435, 147

NOTE.—"Standard cases" represent the various sized cases converted to the equivalent of forty-eight 1-pound cans to the case.

Pack of canned alewives and alewife roe, 1921 to 1929

Year	Alewives		Alewife roe		Total	
	Cases	*Value*	*Cases*	*Value*	*Cases*	*Value*
1921	156	$813	20, 304	$157, 841	20, 460	$158, 654
1922	489	1, 994	18, 099	137, 514	18, 588	139, 508
1923	537	1, 915	20, 404	169, 435	20, 941	171, 350
1924	1, 550	5, 118	41, 642	332, 245	43, 192	337, 363
1925	4, 449	15, 045	35, 183	240, 461	39, 632	255, 506
1926	19, 920	65, 405	33, 886	201, 278	53, 806	266, 683
1927	21, 327	64, 577	45, 168	252, 120	66, 495	316, 697
1928	50, 674	150, 878	56, 392	288, 592	107, 066	439, 470
1929	68, 445	246, 773	28, 819	188, 374	97, 264	435, 147

NOTE.—Shown in standard cases of forty-eight 1-pound cans.

SHRIMP

In 1929 shrimp were canned at 1 plant in North Carolina, 4 in South Carolina, 7 in Georgia, 10 in Florida, 4 in Alabama, 18 in Mississippi, 26 in Louisiana, and 6 in Texas, making a total of 76 plants, or 5 more than a year ago. The total pack amounted to 909,949 standard cases of 48 No. 1 cans (5-ounce cans, dry pack, and 5¾-ounce, wet pack), valued at $5,528,792. This is an increase of 7 per cent both in quantity and in value as compared with that for the previous year. Louisiana was by far the most important State in the production of canned shrimp accounting for 46 per cent of the total quantity and 45 per cent of the total value. The pack of shrimp during the year 1929 was larger than that for any year during the period 1921 to 1928.

Pack of canned shrimp, 1929

STANDARD CASES

States	Dry pack (in tins)		Wet pack (in tins)		Wet pack (in glass)[1]		Total	
	Cases	*Value*	*Cases*	*Value*	*Cases*	*Value*	*Cases*	*Valu*
North and South Carolina	1,689	$9,315	48,807	$268,331	--------	--------	50,496	$277,646
Georgia	28,291	183,108	78,858	458,938	--------	--------	107,149	642,046
Florida	3,504	19,666	37,997	219,805	22,389	$245,349	63,890	484,820
Alabama	36,366	203,492	18,848	106,919	--------	--------	55,214	310,411
Mississippi	46,918	255,582	92,015	509,694	1,374	15,050	140,307	780,326
Louisiana	156,975	967,124	265,840	1,537,174	--------	--------	422,815	2,504,298
Texas	3,889	24,142	45,389	277,277	--------	--------	49,278	301,419
South Carolina, Georgia, Louisiana, and Texas	--------	--------	--------	--------	20,800	227,826	20,800	227,826
Total	277,632	1,662,429	587,754	3,378,138	44,563	488,225	909,949	5,528,792

ACTUAL CASES

Sizes	Cases	Value
In tins, dry:		
No. 1, 4-ounce (48 cans)	21,738	$98,077
No. 1, 4½-ounce (48 cans)	8,932	55,316
No. 1, 5-ounce (48 cans)	226,832	1,334,213
No. 1½, 8¼-ounce (24 cans)	29,472	167,798
Other sizes (standard cases)	1,056	7,025
In tins, wet:		
No. 1, 5¾-ounce (48 cans)	579,105	3,320,613
No. 1½, 9¾-ounce (24 cans)	4,915	27,922
Other sizes (standard cases)	4,482	29,603
In glass, wet:		
5¼-ounce (24 cans)	87,883	$439,748
6¼-ounce (24 cans)	8,814	48,477
Total	--------	5,528,792

[1] The pack of shrimp in glass for South Carolina, Georgia, Louisiana, and Texas has been grouped to avoid the disclosure of private enterprise.

NOTE.—"Standard cases" represent the various-sized cases converted to the equivalent of 48 No. 1, 5-ounce cans to the case in the dry pack, and 48 No. 1, 5¾-ounce cans to the case in the wet pack.

Pack of canned shrimp, 1921 to 1929

Year	Cases	Value
1921	655,364	$3,804,781
1922	579,797	3,064,087
1923	700,429	4,381,534
1924	718,517	4,608,950
1925	735,714	3,782,819
1926	732,365	$4,122,092
1927	852,764	5,321,652
1928	851,831	5,181,547
1929	909,949	5,528,792

NOTE.—Shown in standard cases of 48 No. 1 cans.

OYSTERS

In 1929 oysters were canned at 4 plants in Maryland, 3 in North Carolina, 11 in South Carolina, 5 in Georgia, 5 in Florida, 4 in Alabama, 21 in Mississippi, 7 in Louisiana, and 1 in Texas—a total of 61 plants, or 1 less than in 1928. The output of these plants amounted to 519,145 standard cases of forty-eight 5-ounce cans valued at $2,732,478. This is an increase of 3 per cent in quantity and a decrease of 1 per cent in value as compared with the pack and its value for the previous year. The pack for 1929 was somewhat larger than the average for the period 1921 to 1928. Mississippi and South Carolina accounted for 75 per cent of the total value of the production.

The pack during the spring period (January-May, 1929) amounted to 405,004 standard cases, valued at $2,131,138, and that during the fall period (September-December, 1929) amounted to 114,141 standard cases, valued at $601,340.

Pack of canned oysters, 1929

STANDARD CASES

States	Cases	Value	States	Cases	Value
Maryland	28, 933	$184, 866	Alabama	14, 521	$74, 845
North Carolina	19, 852	97, 102	Mississippi	286, 186	1, 469, 104
South Carolina	105, 139	580, 680	Louisiana and Texas	36, 434	184, 429
Georgia	18, 258	92, 540			
Florida	9, 822	48, 912	Total	519, 145	2, 732, 478

ACTUAL CASES

Sizes	Cases	Value	Sizes	Cases	Value
4-ounce (48 cans)	71, 480	$329, 124	10-ounce (24 cans)	73, 401	$388, 939
5-ounce (48 cans)	352, 884	1, 784, 530	Other sizes (standard cases)	2, 258	15, 608
6-ounce (48 cans)	4, 628	49, 489			
8-ounce (24 cans)	34, 829	164, 788	Total		2, 732, 478

NOTE.—"Standard cases" represent the various-sized cases converted to the equivalent of 48 No. 1 5-ounce cans to the case.

Pack of canned oysters, 1921 to 1929

Year	Cases	Value	Year	Cases	Value
1921	442, 086	$2, 179, 271	1926	413, 834	$2, 026, 569
1922	505, 973	2, 423, 616	1927	447, 297	2, 367, 949
1923	524, 544	2, 720, 073	1928	503, 952	2, 760, 576
1924	447, 481	2, 478, 044	1929	519, 145	2, 732, 478
1925	654, 755	3, 721, 159			

NOTE.—Shown in standard cases of 48 No. 1 5-ounce cans to the case.

CLAM PRODUCTS

In 1929 razor-clam products were canned at 15 plants in Washington, 5 in Oregon, and 8 in Alaska; hard clam products at 1 plant in Rhode Island, 2 in New York, 1 in New Jersey, 1 in South Carolina, 1 in Georgia, 1 in Florida, 6 in Washington, and 1 in Oregon; and soft clam products at 22 plants in Maine and 2 in Massachusetts—a total of 63 plants, or 9 more than a year ago. The total production amounted to 554,639 standard cases of 48 No. 1 cans, valued at $2,548,472, an increase of 4 per cent in quantity and a decrease of 3 per cent in value as compared with 1928. Considered according to varieties of clams the pack of razor-clam products amounted to 71,462 standard cases, valued at $619,594; hard clams, 299,941 standard cases, valued at $1,279,920; and soft clams, 183,236 standard cases, valued at $648,958. The value of the pack in 1929 was considerably larger than the average for the period 1921 to 1928.

Pack of canned clams and clam products, 1929

Items and States	Cases	Value
Razor clams (Washington, Oregon, and Alaska):		
Whole—		
No. 1, 5-ounce (48 cans)	7,295	$70,035
1-pound, 8-ounce (48 cans)	837	9,557
No. 2, 10-ounce (24 cans)	239	2,318
Other sizes (standard cases)	226	1,678
Minced—		
½-pound flat, 4-ounce (48 cans)	50,561	358,819
No. 1, 5-ounce (48 cans)	17,837	154,833
No. 2, 10-ounce (24 cans)	2,364	16,110
Other sizes (standard cases)	122	780
Juice—		
No. 1, 10-ounce (48 cans)	1,148	4,135
No. 2, 20-ounce (24 cans)	443	1,329
Total	81,072	619,594
Total (standard cases)	71,462	
Hard clams (Rhode Island, New York, New Jersey, South Carolina, Georgia, Florida, Washington, and Oregon):		
Whole—		
No. 1, 5-ounce (48 cans)	504	2,882
1-pound, 8-ounce (48 cans)	2,873	20,111
No. 2, 10-ounce (24 cans)	16,293	73,428
No. 10, 52-ounce (6 cans)	4,820	57,840
Other sizes (standard cases)	15,623	57,165
Minced—		
No. 1, 5-ounce (48 cans)	717	4,365
Other sizes (standard cases)	6,845	43,644
Chowder—Various sizes (standard cases)	206,439	833,052
Juice—		
No. 1, 10-ounce (48 cans)	978	$3,912
No. 2, 20-ounce (24 cans)	1,977	6,263
No. 10, 102-ounce (6 cans)	921	3,229
Other sizes (standard cases)	1,859	21,850
Broth, soup, bouillon and cocktail—Various sizes (standard cases)	36,668	152,179
Total	296,517	1,279,920
Total (standard cases)	299,941	
Soft clams (Maine and Massachusetts):		
Whole—		
No. 1, 5-ounce (48 cans)	45,290	196,387
1-pound, 8-ounce (48 cans)	7,199	50,779
No. 2, 10-ounce (24 cans)	14,113	54,380
Other sizes (standard cases)	10,160	19,840
Chowder—		
No. 1, 10-ounce (48 cans)	38,423	156,352
No. 3, 33-ounce (24 cans)	26,991	121,723
Other sizes (standard cases)	6,243	19,632
Juice—		
7-ounce (48 cans)	966	7,732
20-ounce (24 cans)	7,029	12,651
Other sizes (standard cases)	5,247	9,482
Total	161,661	648,958
Total (standard cases)	183,236	
Grand total (standard cases)	554,639	2,548,472

NOTE.—"Standard cases" represent the various sized cases converted to the equivalent of 48 No. 1, 5-ounce, cans to the case, for whole and minced clams; and 48 No. 1, 10-ounce, cans to the case, for other clam products.

Value of canned clams and clam products, 1921 to 1929

Year	Razor clams	Hard clams	Soft clams	Clam chowders, juices, etc.	Total
1921	$506,591	$138,699	$338,775	$182,442	$1,166,507
1922	876,364	201,270	327,287	311,444	1,716,365
1923	883,535	194,937	308,560	323,584	1,710,616
1924	863,126	271,911	459,882	566,470	2,161,389
1925	860,002	218,601	287,073	484,702	1,850,378
1926	795,256	191,044	279,996	738,354	2,004,650
1927	1,046,797	231,526	270,747	1,195,884	2,744,954
1928	936,394	203,959	318,510	1,164,735	2,623,598
1929	614,130	259,435	321,386	1,353,521	2,548,472

MISCELLANEOUS CANNED FISHERY PRODUCTS

In addition to those products discussed individually above, there were 274,954 standard cases of forty-eight 1-pound cans of miscellaneous canned fishery products, valued at $2,450,331. This is an increase of 3 per cent in quantity and 2 per cent in value as compared with the quantity and value of similar products canned during 1928. Among these products shad were canned at 14 plants; shad roe at 12 plants; finnan haddie at 5 plants; fish flakes at 6 plants; fish cakes, balls, etc., at 9 plants; other fish at 9 plants; other roe and caviar at 8 plants;

salmon eggs at 7 plants; crabs at 5 plants; and other shellfish at 6 plants.

Compared with the pack of a year ago, the pack of shad and shad roe, which amounted to 28,885 cases, valued at $213,496, increased 5 per cent in quantity and decreased 9 per cent in value; the pack of other fish and fish products, excluding roe and caviar, amounted to 216,207 cases, valued at $1,800,247—an increase of 3 per cent in quantity and 4 per cent in value. Other roe and caviar amounted to 10,622 cases, valued at $113,319—a decrease of 16 per cent in quantity and 22 per cent in value. Salmon eggs (for bait) amounted to 4,328 cases, valued at $108,968, a decrease of 18 per cent in quantity and 12 per cent in value. Crabs amounted to 1,151 cases, valued at $30,530—a decrease of 29 per cent in quantity and 31 per cent in value. Other shellfish amounted to 13,761 cases, valued at $183,771—an increase of 53 per cent in quantity and 42 per cent in value.

Pack of miscellaneous canned fishery products in the United States and Alaska, 1929, standard cases

Items	Cases	Value	Items	Cases	Value
Shad	26, 153	$122, 117	Other roe and caviar [2]	10, 622	113, 319
Shad roe	2, 732	91, 379	Salmon eggs (for bait)	4, 328	108, 968
Finnan haddie	1, 030	15, 557	Crabs	1, 151	30, 530
Fish flakes	56, 236	570, 391	Other shellfish [3]	13, 761	183, 771
Fish cakes, balls, etc	132, 024	1, 088, 610			
Other fish [1]	26, 917	125, 689	Total	274, 954	2, 450, 331

[1] Includes the pack of canned fillets, fish chowder, cat and dog food, bait herring, eels, and miscellaneous fish products.

[2] Includes the pack of roe and caviar from whitefish, sturgeon, salmon, and ground fish.

[3] Includes the pack of turtle products, terrapin products, mussels, abalone, squid, and clam cakes.

NOTE.—"Standard cases" represent the various sized cases converted to the equivalent of forty-eight 1-pound cans to the case.

Pack of canned shad and shad roe, 1921 to 1929

Year	Shad		Shad roe		Total	
	Cases	*Value*	*Cases*	*Value*	*Cases*	*Value*
1921	641	$2, 455	38	$142	679	$2, 597
1922	1, 781	9, 961	292	8, 517	2, 073	18, 478
1923	2, 162	37, 165	536	16, 288	2, 698	53, 453
1924	6, 470	20, 461	1, 164	72, 932	7, 634	93, 393
1925	12, 569	53, 875	2, 430	100, 571	14, 999	154, 446
1926	14, 275	63, 334	1, 121	39, 422	15, 396	102, 756
1927	11, 569	61, 842	767	21, 890	12, 336	83, 732
1928	23, 447	110, 006	4, 130	123, 840	27, 577	233, 846
1929	26, 153	122, 117	2, 732	91, 379	28, 885	213, 496

NOTE.—Shown in standard cases of forty-eight 1-pound cans.

Value of canned crabs 1921 to 1929

Year	Value	Year	Value
1921	$115, 800	1926	$25, 222
1922	104, 171	1927	26, 988
1923	47, 023	1928	44, 536
1924	35, 944	1929	30, 530
1925	52, 499		

BY-PRODUCTS

In 1929 the total value of by-products, including products of menhaden, whaling, and fresh-water mussel-shell industries, amounted to $23,767,656. This is an increase over the previous year's value of 60 per cent. However, statistics of the fresh-water mussel-shell products which amounted to $6,144,515 in 1929, were not obtained for 1928. Excluding mussel-shell products, the increase over a year ago amounted to 18 per cent. The scrap and meal group, and the marine animal oils group were the most valuable and each accounted for 29 per cent of the total value. Fresh-water mussel-shell products followed with 26 per cent, and oyster-shell products with 10 per cent. Miscellaneous by-products, which include herring skins and scales, shark skins and fins, fish flour, agar, kelp products, isinglass, pickled whale meat, and whalebone made up the remaining 6 per cent.

OILS

In 1929 the production of marine animal oils amounted to 15,353,057 gallons valued at $6,801,619, which is an increase of 26 per cent in quantity and 32 per cent in value when compared with the preceding year. Of the total production, 21 per cent consisted of menhaden oil, 42 per cent pilchard or sardine oil, and 23 per cent herring oil (from Maine and Alaska herring, and alewives). The production of whale and sperm oil amounted to 9 per cent of the total. The remaining 5 per cent consisted of oils from salmon, tuna, mackerel, cod and cod livers, lake herring, and from miscellaneous fish cuttings and waste. The production and value in 1929 was greater than for any year for which there are records.

SCRAP, MEAL, ETC.

In 1929 the production of marine animal scrap, meal, etc., amounted to 142,681 tons, valued at $6,801,362. This is an increase of 37 per cent in quantity and 26 per cent in value as compared with the production in 1928. Both quantity and value were greater than for any year during the period 1921 to 1928. Of the total production 23 per cent consisted of dried menhaden scrap and meal, 16 per cent acidulated menhaden scrap, 56 per cent miscellaneous dried scrap and meal (other than menhaden), 3 per cent crude or green scrap, and 2 per cent shrimp meal. The largest single item is pilchard meal in the miscellaneous dried scrap and meal group. The production of this commodity reached 36,500 tons, valued at $1,960,603, in 1929. All groups increased over 1928.

Production of miscellaneous by-products, 1929

Products	Atlantic and Gulf coasts		Pacific coast (including Alaska)		Total	
	Quantity	*Value*	*Quantity*	*Value*	*Quantity*	*Value*
Dried scrap:						
Herring (Maine)------------tons--	643	$22, 221	----------	----------	643	$22, 221
Alewife--------------------do----	546	26, 464	----------	----------	546	26, 644
Ground fish----------------do----	156	7, 500	----------	----------	156	7, 500
Crab, king and blue--------do----	1, 468	39, 861	----------	----------	1, 468	39, 861
Miscellaneous--------------do----	415	20, 500	----------	----------	415	20, 500
Meal:						
Salmon---------------------do----	----------	----------	2, 427	$140, 961	2, 427	140, 961
Herring (Maine)------------do----	2, 184	123, 227	----------	----------	2, 184	123, 227
Herring (Alaska)-----------do----	----------	----------	12, 750	734, 246	12, 750	734, 246
Pilchard-------------------do----	----------	----------	36, 500	1, 960, 603	36, 500	1, 960, 603
Tuna-----------------------do----	----------	----------	6, 186	302, 710	6, 186	302, 710
Mackerel-------------------do----	----------	----------	497	25, 403	497	25, 403
Whale meat and bone--------do----	----------	----------	1, 415	72, 174	1, 415	72, 174
Ground fish----------------do----	13, 142	883, 549	----------	----------	13, 142	883, 549
Shrimp---------------------do----	[1] 2, 153	[1] 73, 429	(1)	(1)	2, 153	73, 429
Miscellaneous--------------do----	208	10, 200	1, 321	68, 377	1, 529	78, 577
Pomace, herring (Maine)------do----	826	28, 642	----------	----------	826	28, 642
Crude or green scrap, miscellaneous ---------------tons--	3, 389	5, 592	325	7, 285	3, 714	12, 877
Oil:						
Salmon-----------------gallons--	----------	----------	280, 425	107, 375	280, 425	107, 375
Herring (Maine)------------do----	150, 255	53, 708	----------	----------	150, 255	53, 708
Herring (Alaska)-----------do----	----------	----------	3, 341, 179	1, 407, 041	3, 341, 179	1, 407, 041
Alewife--------------------do----	19, 232	8, 371	----------	----------	19, 232	8, 371
Pilchard-------------------do----	----------	----------	6, 427, 404	2, 815, 954	6, 427, 404	2, 815, 954
Tuna-----------------------do----	----------	----------	58, 150	17, 752	58, 150	17, 752
Mackerel-------------------do----	----------	----------	31, 377	10, 621	31, 377	10, 621
Whale----------------------do----	----------	----------	1, 477, 907	778, 502	1, 477, 907	778, 502
Sperm----------------------do----	----------	----------	47, 750	17, 800	47, 750	17, 800
Cod-liver, crude-----------do----	264, 809	184, 284	----------	----------	264, 809	184, 284
Miscellaneous--------------do----	[2] 50, 488	[2] 6, 948	31, 346	11, 447	81, 834	18, 395
Liquid glue------------------do----	[3] 539, 937	[3] 1, 298, 096	(3)	(3)	539, 937	1, 298, 096
Miscellaneous by-products [4]-pounds--	2, 448, 466	40, 654	2, 706, 118	156, 911	5, 154, 584	197, 565
Total--------------------------	----------	2, 833, 426	----------	8, 635, 162	----------	11, 468, 588

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[1] A small quantity of shrimp meal produced by one firm in California is included with the production of the Atlantic and Gulf coasts.

[2] Includes the production in Indiana.

[3] A small quantity of liquid glue produced by one firm in California is included with production of the Atlantic and Gulf coasts.

[4] Includes herring skins, scales, shark skins and fins, fish flour, agar, kelp products, isinglass, pickled whale meat, and whale bone.

NOTE.—The oils produced on the Pacific coast are reported in trade gallons (7½ pounds), and those produced on the Atlantic and Gulf coasts are reported in United States gallons (about 7.74 pounds).

Production of marine-animal oils, 1921 to 1929

Year	Menhaden		Herring		Pilchard or sardine	
	Gallons	*Value*	*Gallons*	*Value*	*Gallons*	*Value*
1921----------------------------	6, 260, 478	$1, 719, 892	112, 838	$26, 735	170, 977	$35, 760
1922----------------------------	7, 102, 677	2, 904, 833	450, 362	150, 144	428, 859	145, 668
1923----------------------------	7, 461, 365	3, 316, 277	945, 424	384, 053	966, 247	424, 103
1924----------------------------	3, 923, 904	1, 817, 626	1, 324, 002	571, 399	2, 338, 711	1, 076, 903
1925----------------------------	6, 023, 108	3, 001, 106	2, 442, 527	1, 034, 071	3, 120, 048	1, 568, 753
1926----------------------------	3, 942, 821	1, 729, 160	3, 116, 936	1, 382, 763	2, 113, 028	932, 651
1927----------------------------	3, 957, 068	1, 716, 474	2, 291, 687	960, 250	2, 514, 562	1, 116, 725
1928----------------------------	3, 585, 569	1, 455, 376	2, 743, 065	1, 085, 799	3, 825, 786	1, 621, 531
1929----------------------------	3, 172, 735	1, 381, 816	3, 510, 666	1, 469, 120	6, 427, 404	2, 815, 954

Year	Whale and sperm		Other Marine animal oils		Total	
	Gallons	*Value*	*Gallons*	*Value*	*Gallons*	*Value*
1921----------------------------	[1] 168, 729	$94, 767	[1] 733, 259	$201, 516	7, 446, 281	$2, 078, 670
1922----------------------------	2, 247, 145	884, 714	306, 430	145, 401	10, 535, 473	4, 230, 760
1923----------------------------	1, 556, 830	791, 884	443, 935	187, 877	11, 373, 801	5, 104, 194
1924----------------------------	1, 242, 836	661, 271	381, 832	184, 534	9, 211, 285	4, 311, 733
1925----------------------------	1, 221, 198	685, 011	480, 195	211, 250	13, 287, 076	6, 500, 191
1926----------------------------	1, 276, 009	748, 075	439, 252	234, 832	10, 888, 046	5, 027, 491
1927----------------------------	1, 531, 400	755, 965	579, 396	355, 607	10, 874, 113	4, 905, 021
1928----------------------------	1, 458, 248	676, 534	532, 909	310, 378	12, 145, 577	5, 149, 618
1929----------------------------	1, 525, 657	796, 302	716, 595	338, 427	15, 353, 057	6, 801, 619

[1] Whale oil included with "Other fish oils" in 1921.

Production of marine-animal meal and scrap, 1921 to 1929

Year	Dried menhaden scrap and meal		Acidulated menhaden scrap		Shrimp meal	
	Tons	*Value*	*Tons*	*Value*	*Tons*	*Value*
1921	37, 858	$1, 380, 455	44, 804	$905, 640	628	$16, 814
1922	67, 821	2, 665, 441	25, 755	556, 317	562	15, 398
1923	43, 452	2, 029, 406	44, 935	1, 064, 870	1, 269	48, 290
1924	21, 008	996, 866	24, 409	495, 684	936	31, 580
1925	30, 167	1, 519, 458	41, 463	1, 102, 051	1, 079	31, 658
1926	24, 226	1, 164, 396	23, 553	548, 204	1, 036	33, 775
1927	26, 417	1, 406, 915	19, 984	566, 590	1, 427	44, 716
1928	24, 681	1, 453, 651	20, 028	531, 238	1, 726	58, 080
1929	33, 041	1, 625, 694	23, 089	622, 544	2, 153	73, 429

Year	Crude or green scrap		Other dried scrap and meal		Total	
	Tons	*Value*	*Tons*	*Value*	*Tons*	*Value*
1921	1, 810	$21, 327	22, 173	$1, 232, 906	107, 273	$3, 557, 142
1922	390	9, 175	21, 638	1, 090, 346	116, 166	4, 336, 677
1923	1, 593	13, 721	22, 636	1, 257, 098	113, 885	4, 413, 385
1924	4, 097	15, 217	30, 847	1, 373, 351	81, 297	2, 912, 698
1925	5, 787	16, 430	39, 566	1, 981, 038	118, 062	4, 650, 635
1926	6, 456	12, 692	37, 703	1, 892, 010	92, 974	3, 651, 077
1927	1, 960	8, 942	42, 078	2, 293, 919	91, 866	4, 321, 082
1928	3, 067	20, 290	55, 017	3, 318, 884	104, 519	5, 382, 143
1929	4, 540	41, 519	79, 858	4, 438, 176	142, 681	6, 801, 362

GLUE

In 1929 liquid glue was manufactured at 1 plant in Maine, 5 in Massachusetts, and 1 in California. The production amounted to 539,937 gallons valued at $1,298,096. This is an increase of 6 per cent in quantity and 4 per cent in value compared with the production and value in the previous year. Both quantity and value are larger than those in any year during the period 1921 to 1928.

Production of fish glue, 1921 to 1929

Year	Gallons	Value	Year	Gallons	Value
1921	347, 048	$364, 415	1926	520, 622	$732, 109
1922	323, 003	278, 424	1927	512, 136	860, 396
1923	465, 814	680, 054	1928	510, 587	1, 254, 082
1924	502, 940	550, 391	1929	539, 937	1, 298, 096
1925	510, 816	589, 064			

OYSTER-SHELL PRODUCTS

In 1929 oyster-shell products were manufactured at 2 plants in Rhode Island, 1 in Connecticut, 5 in New Jersey, 4 in Pennsylvania, 7 in Maryland, 7 in Virginia, 2 in North Carolina, 4 in South Carolina, 2 in Florida, 2 in Alabama, 6 in Mississippi, 5 in Louisiana, 2 in Texas, and 1 in California—a total of 50 plants or 3 more than in 1928. These plants produced 262,232 tons of crushed oyster-shell for poultry feed valued at $2,223,853 and 72,534 tons of oyster-shell lime valued at $300,646—a total of 334,766 tons valued at $2,524,499. Compared with the total production of these products in 1928, there was an increase of 9 per cent in quantity and 3 per cent in value. The combined production in Louisiana, Texas, and California accounted for 44 per cent of the total quantity and 48 per cent of the total value. The shells taken in Louisiana, as well as those in California, are mainly from reefs containing deposits of many thousands of tons of dead oyster shells. Whole and crushed shells are often used for road-building purposes, although crushed shells are used mainly for poultry feed, and the shell dust resulting from the crushing operation is sold as lime. The value of the production in 1929 was somewhat greater than the average for the years 1921 to 1928, although the production has remained fairly constant throughout this period.

Production of oyster shell products, 1929

States	Crushed oyster shell for poultry feed		Oyster-shell lime		Total	
	Tons	*Value*	*Tons*	*Value*	*Tons*	*Value*
Rhode Island, Connecticut, and Pennsylvania	6,947	$71,780	1,990	$9,176	8,937	$80,956
New Jersey	8,073	77,283	2,258	9,576	10,331	86,859
Maryland	41,908	319,991	20,217	54,444	62,125	374,435
Virginia, North Carolina, and South Carolina	28,427	266,173	[1] 25,378	179,184	53,805	445,357
Florida and Alabama	16,427	112,349	4,180	9,445	20,607	121,794
Mississippi	27,670	202,132	4,518	4,418	32,188	206,550
Louisiana, Texas, and California	132,780	1,174,145	13,993	34,403	146,773	1,208,548
Total	262,232	2,223,853	72,534	300,646	334,766	2,524,499

[1] Of this amount, 13,545 tons valued at $115,474 were reported as "burned" lime.

Production of oyster-shell products, 1921 to 1929

Year	Crushed oyster-shell for poultry feed		Oyster-shell lime		Total
	Tons	*Value*	*Tons*	*Value*	*Value*
1921	185,474	$1,759,120	73,764	$502,634	$2,261,754
1922	236,021	2,005,838	93,168	431,213	2,437,051
1923	224,983	1,986,249	83,808	372,286	2,358,535
1924	219,211	2,019,254	70,269	336,384	2,355,638
1925	226,971	2,075,057	67,818	303,261	2,378,318
1926	251,166	2,379,141	57,232	207,019	2,586,160
1927	249,959	2,332,065	60,560	268,985	2,601,050
1928	237,305	2,155,985	68,708	303,439	2,459,424
1929	262,232	2,223,853	72,534	300,646	2,524,499

FRESH-WATER MUSSEL-SHELL PRODUCTS

In 1929 statistics of the fresh-water mussel shell industry were obtained for the first time in connection with the canned fishery products and by-products survey. The value of the products of this industry amounted to $6,144,515. Of this value pearl buttons alone accounted for 94 per cent. The remaining 6 per cent consisted of crushed shell for poultry feed, lime, cut shells, stucco, and colored shell and colored shell chips used for decorative purposes. The total production of finished pearl buttons amounted to 20,205,073 gross valued at $5,795,863. The production in Iowa alone accounted for 67 per cent of the quantity and 71 per cent of the value of the buttons. Iowa also accounted for the greater portion of the production of other products.

Mussel shells utilized in the above production amounted to 54,352,000 pounds, valued at $1,324,919. Shells were taken in 19 States in the Mississippi Valley and Great Lakes region. The larger producing

States were Tennessee with 21 per cent of the total shells; Arkansas, 20 per cent; Michigan, 10 per cent; Iowa, 8 per cent; Indiana, 8 per cent; Illinois, 8 per cent; and Wisconsin, 7 per cent.

Production of fresh-water mussel-shell products, 1929

Items	Iowa		Other States		Total	
	Quantity	*Value*	*Quantity*	*Value*	*Quantity*	*Value*
Pearl buttons..........gross..	13, 559, 994	$4, 129, 158	6, 645, 079	$1, 666, 705	20, 205, 073	$5, 795, 863
Crushed shell for poultry feed ....tons..	11, 329	127, 227	443	3, 330	11, 772	130, 557
Lime..................do....	1, 362	1, 951	195	550	1, 557	2, 501
Other products [1]........do....	[2] 5, 014	[2] 215, 594	(2)	(2)	5, 014	215, 594
Total..................	....	4, 473, 930	....	1, 670, 585	....	6, 144, 515

[1] Include cut shells, stucco and colored shells and colored shell chips used for decorative purposes.
[2] A small production made in other States has been included with Iowa.

MENHADEN INDUSTRY

In 1929, 1 menhaden factory was operated in Connecticut, 1 in New York, 2 in New Jersey, 2 in Delaware, 12 in Virginia, 12 in North Carolina, 1 in South Carolina, 1 in Georgia, and 5 in Florida—a total of 37 factories, or 3 more than in 1928. These plants utilized 660,363,000 fish in the manufacture of 33,041 tons of dried scrap and meal, valued at $1,625,694; 23,089 tons of acidulated scrap, valued at $622,544, and 3,172,735 gallons of oil, valued at $1,381,816, making a total value for these products of $3,630,054. This is an increase of 6 per cent in value over that for the previous year, but is considerably under the production for several of the years during the past decade. As a result of increased activities in the menhaden industry in Florida, the value of the products in South Carolina, Georgia, and Florida accounted for 32 per cent of the total value of all menhaden products. Virginia accounted for 30 per cent, North Carolina, 23 per cent; and Connecticut, New York, New Jersey, and Delaware, 15 per cent.

Fish utilized and products of the menhaden industry, 1929

States	Menhaden utilized	Products						
		Dry scrap and meal		Acidulated scrap		Oil		Total
	Number	*Tons*	*Value*	*Tons*	*Value*	*Gallons*	*Value*	*Value*
Connecticut, New York, New Jersey, and Delaware......	69, 164, 000	1, 517	$74, 574	4, 605	$146, 833	705, 105	$311, 597	$533, 004
Virginia...........	173, 294, 000	12, 628	602, 291	------	----------	1, 107, 077	486, 996	1, 089, 287
North Carolina......	146, 840, 000	7, 103	347, 894	5, 887	158, 184	753, 722	323, 904	829, 982
South Carolina, Georgia, and Florida............	271, 065, 000	11, 793	600, 935	12, 597	317, 527	606, 831	259, 319	1, 177, 781
Total..........	[1] 660,363, 000	[2] 33,041	1, 625, 694	23, 089	622, 544	3, 172, 735	1, 381, 816	3, 630, 054

[1] 396,217,800 pounds.
[2] Of this quantity, 24,189 tons, valued at $1,150,509 were reported as dry scrap, and 8,852 tons, valued at $475,185, as fish meal.

Products of the menhaden industry, 1921 to 1929

Year	Dried scrap and meal		Acidulated scrap		Oil		Total
	Tons	*Value*	*Tons*	*Value*	*Gallons*	*Value*	*Value*
1921	37, 858	$1, 380, 455	44, 804	$905. 640	6, 260, 478	$1, 719, 892	$4, 005, 987
1922	67, 821	2, 665, 441	25, 755	556, 317	7, 102, 677	2, 904, 833	6, 126, 591
1923	43, 452	2, 029, 406	44, 935	1, 054, 870	7, 461, 365	3, 316, 277	6, 410, 553
1924	21, 008	996. 866	24, 409	495, 684	3, 923, 904	1, 817, 626	3, 310, 176
1925	30, 167	1, 519, 458	41, 463	1, 102, 051	6, 023, 108	3, 001, 106	5, 622, 615
1926	24. 226	1, 164, 396	23, 553	548, 204	3, 942, 821	1, 729, 160	3, 441, 760
1927	26, 417	1, 406, 915	19, 984	566, 590	3, 957, 068	1, 716, 474	3, 689, 979
1928	24, 681	1, 453, 651	20, 028	531, 238	3, 585, 569	1, 455, 376	3, 440, 265
1929	33, 041	1, 625, 694	23, 089	622, 544	3, 172, 735	1, 381, 816	3, 630, 054

TIGHT-PACK CUT HERRING TRADE

During 1929 there were 13,843 barrels of tight-pack cut herring, valued at $84,204, packed in Maryland and Virginia. Of this amount, 13,013 barrels, valued at $79,079, were prepared in Virginia, and 830 barrels, valued at $5,125, in Maryland.

There were 26 firms engaged in the industry, 23 of which were in Virginia and 3 in Maryland. Of those in Virginia, 21 were in Lancaster and Northumberland Counties.

PACKAGED-FISH TRADE

Fresh, frozen, and smoked packaged fish were prepared in 1929 in 6 plants in Maine, 55 in Massachusetts, 1 in Connecticut, 28 in New York, 9 in Virginia, 1 in North Carolina, 3 in Florida, 1 in Alabama, 1 in Pennsylvania, 3 in Washington, 2 in Oregon, and 2 in California—a total of 112 plants, or an increase of 27 over those operated in 1928. The production of packaged fish in 1929 amounted to 84,396,505 pounds, valued at $14,812,987, as compared with 65,245,376 pounds, valued at $9,790,024 for 1928. This represents an increase of 29 per cent in amount and 51 per cent in value. It has been estimated that to produce the packaged-fish products prepared in 1929, 212,000,000 pounds of whole fish were utilized.

According to quantity, by far the most important fish packaged was haddock, which accounted for 85 per cent of the total quantity prepared. Following in order were cod with 4 per cent of the total, hake with 3 per cent, squeteague with 2 per cent, and cusk with 1 per cent. About 20 other species were packaged in smaller quantities. Prominent among these species of less importance were flounders and croakers.

The combined production of Massachusetts and Connecticut accounted for 85 per cent of the total output; New York, 9 per cent; Virginia and North Carolina combined, 3 per cent; and Maine, 2 per cent. The total production in all other States amounted to less than 1 per cent of the total.

Considered according to the method of preparation, fillets accounted for 93 per cent; dressed or pan-dressed fish, 4 per cent; and sticks, 3 per cent. The production of steaks and tenderloins amounted to less than one-half of 1 per cent. Of the total quantity, 72 per cent were marketed fresh, 26 per cent frozen, and 2 per cent smoked.

Production of fresh, frozen, and smoked packaged fish in the United States, 1929

Species	Maine		Massachusetts and Connecticut		New York	
	Pounds	*Value*	*Pounds*	*Value*	*Pounds*	*Value*
Cod	335, 500	$60, 340	2, 309, 251	$392, 368	[1] 840, 000	[1] $148, 300
Cusk	211, 100	37, 527	1, 013, 327	147, 037	----------	----------
Flounders, including "sole," "dabs," and "California halibut"	14, 000	2, 740	366, 731	104, 584	159, 500	42, 515
Haddock	891, 572	141, 427	63, 912, 492	11, 427, 218	6, 171, 000	1, 103, 400
Hake	275, 250	46, 792	2, 164, 074	294, 538	177, 000	25, 530
Halibut	----------	----------	(2)	(2)	----------	----------
Mackerel	----------	----------	16, 416	3, 929	----------	----------
Pollock	----------	----------	412, 245	46, 429	----------	----------
Wolffish	----------	----------	45, 081	10, 911	----------	----------
Miscellaneous [3]	----------	----------	1, 573, 714	236, 307	----------	----------
Total	1, 727, 422	288, 826	71, 813, 331	12, 663, 321	7, 347, 500	1, 319, 745

Species	Virginia and North Carolina		Florida, Alabama, and Pennsylvania		Washington, Oregon, and California		Total	
	Pounds	*Value*	*Pounds*	*Value*	*Pounds*	*Value*	*Pounds*	*Value*
Butterfish	46, 660	$7, 080	--------	--------	--------	--------	46, 660	$7, 080
Cod	(1)	(1)	--------	--------	--------	--------	3, 484, 751	601, 008
Croaker	649, 844	69, 710	--------	--------	--------	--------	649, 844	69, 710
Cusk	--------	--------	--------	--------	--------	--------	1, 224, 427	184, 564
Flounders, including "sole," "dabs," and "California halibut"	67, 950	7, 471	--------	--------	315, 150	$64, 208	923, 331	221, 518
Groupers	--------	--------	33, 000	$6, 450	--------	--------	33, 000	6, 450
Haddock	391, 715	59, 548	--------	--------	--------	--------	71, 366, 779	12, 731, 593
Hake	--------	--------	--------	--------	--------	--------	2, 616, 324	366, 860
Halibut	--------	--------	--------	--------	[2] 183, 282	[2] 37, 191	183, 282	37, 191
Mackerel	--------	--------	--------	--------	--------	--------	16, 416	3, 929
Pollock	--------	--------	--------	--------	--------	--------	412, 245	46, 429
Salmon	--------	--------	--------	--------	30, 759	6, 637	30, 759	6, 637
Snapper, red	--------	--------	45, 500	10, 625	--------	--------	45, 500	10, 625
Spot	10, 700	1, 665	--------	--------	--------	--------	10, 700	1, 665
Squeteagues	1, 324, 332	165, 896	--------	--------	--------	--------	1, 324, 332	165, 896
Wolffish	--------	--------	--------	--------	--------	--------	45, 081	10, 911
Miscellaneous [3]	22, 300	2, 350	178, 050	57, 881	209, 010	44, 383	1, 983, 074	340, 921
Total	2, 513, 501	313, 720	256, 550	74, 956	738, 201	152, 419	[4] 84, 396, 505	14, 812, 987

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[1] A small amount of cod packaged in Virginia has been included with New York.

[2] A small amount of halibut packaged in Massachusetts has been included with Washington, Oregon, and California.

[3] Includes barracuda, blue pike, "lingcod," rockfish, sablefish, seabass, snook, whiting, yellow perch, and other species.

[4] Of this amount, 78,413,938 pounds, valued at $13,950,601, were fillets; 3,291,094 pounds, valued at $419,430 were dressed or pan-dressed; 230,259 pounds, valued at $46,279, were steaks; 2,400,214 pounds, valued at $382,987, were sticks; and 61,000 pounds, valued at $13,700, were tenderloins. Of the total quantity of fillets prepared, 55,095,723 pounds, valued at $9,800,803, were fresh; 21,632,860 pounds, valued at $3,877,219 were frozen; and 1,685,355 pounds, valued at $272,479, were smoked. Of the steaks, all were marketed frozen, with the exception of 15,000 pounds, valued at $3,000, which were fresh. Only a small amount of dressed and pan-dressed fish were frozen, all the remaining fish in this group as well as those in the stick and tenderloin groups being marketed fresh.

FROZEN-FISH TRADE

FISH FROZEN

In 1929 the freezing plants in the United States and Alaska, reporting their activities to the Government, packed 121,542,589 pounds of frozen fishery products. These products, at the time they were held in cold-storage plants, were estimated to be valued at $15,000,000. This is the largest frozen pack of fishery products on record and exceeded the volume of the pack in 1928 by 7 per cent. Over one-half of the pack consisted of six species of fish. Listed in order of importance they were: Halibut, with 12 per cent of the total; salmon, 10 per cent; mackerel, 9 per cent; cod, haddock, haddock fillets, hake, and pollock, 9 per cent; whiting, 7 per cent; and sea herring, 7 per cent. Considerable quantities of shellfish, squid, croaker, butterfish, and lake herring also were frozen. Frozen squid and sea herring are marketed primarily for bait, although quantities of each are used for human consumption.

The above does not represent the entire amount of ground fish frozen during 1929, for it must be borne in mind that the above figures are obtained mainly from public freezing plants that report their operations to the Government. During late years an increasing number of privately owned establishments have been preparing frozen package fishery products, and many of these did not begin reporting their activities to the Government until late in the fall of 1929. However, an idea of the production of frozen package fish may be gained from the review of the package fish trade in 1929, which appears on pages — and — of this report. In brief, according to this, the frozen pack of packaged fishery products in 1929 amounted to 21,849,120 pounds, valued at $3,920,688. This is an increase of 71 per cent when compared with the volume of these products packed in 1928.

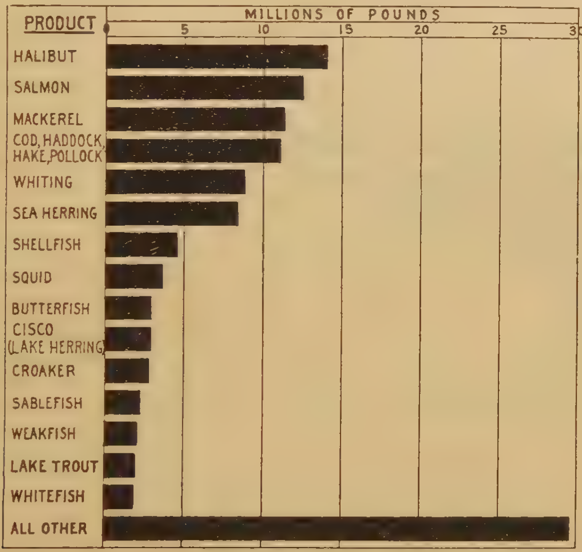

FIGURE 8.—Production of frozen fishery products in the United States and Alaska, 1929. Salmon includes steelhead trout; sea herring includes alewives and bluebacks; cisco includes bluefin, blackfin, and chub

Among the important species, by volume, frozen in 1929, that of frozen ground fish increased 130 per cent over the production of this group in 1928. That of sea herring increased 37 per cent, and halibut 12 per cent. The pack of other important species fared less well, for, that of mackerel decreased 2 per cent; chinook salmon, 12 per cent; silver salmon, 20 per cent; and whiting, 16 per cent. Some of the minor species show increases of 50 to over 100 per cent. On the whole there were greater quantities of the various salt-water species frozen in 1929 than in the preceding year, and lesser quantities of the fresh-water species.

That part of the catch of a species of fish which is to be frozen is determined by the kind of fish, its adaptability for preserving in certain manners, the locality of capture, and custom. Also, freezing sometimes is an intermediate step in preservation, especially with sturgeon and whitefish, as quantities of these are frozen and later smoked. While no complete figures are available over a period of years of the amount of certain species of fish frozen annually compared with their catch, it is certain that each year the ratio of amount frozen to catch is increasing with many species, such as whiting, halibut, salmon, cod, and haddock.

As with the preservation of other food products, the actual season for freezing fishery products coincides with the season when the product is in abundance, and this season varies with the fish preserved. Halibut are in season from February 15 to November 15; mackerel, April to December; whiting, May to December; salmon, April to December; croaker, February to November; butterfish, May to November; ground fish and herring, all year; and so on. As a general rule, most of the species frozen are in abundance during the six warm months of the year.

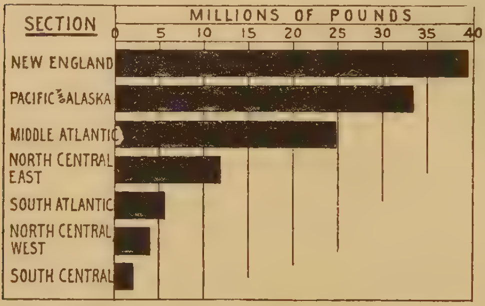

FIGURE 9.—Production of frozen fishery products in the various geographical sections, 1929

During 1929 nearly three-fourths of the frozen pack was put up during the months of June to November, inclusive. The amount frozen during August was largest, and accounted for 15 per cent of the total. The amounts frozen during the months of June, July, and November were about equal, each accounting for about 12 per cent of the total. A comparatively small amount was frozen during the months from January to May, inclusive. The least quantity was frozen in March. From May on the volume of the trade increased and continued at a high level until November. During the latter period about 15,000,000 pounds were packed monthly on the average which was about three times the average monthly freezings for the early period of the year—January to May. The action of the trade in 1929 was practically a duplicate of a normal year as to the season when the trade was at its highest and lowest levels.

The New England section led in the volume of fish frozen during 1929, for 39,511,000 pounds were put up there, which was about one-third of the total pack. Ground fish, mackerel, whiting, herring, and squid accounted for 81 per cent of the entire pack in this section. In the Pacific section, including Alaska, 33,318,000 pounds were frozen, which is somewhat more than one-fourth of the total pack. Salmon and halibut were the leading species preserved in this section, these accounting for 70 per cent of the production in this section. In the Middle Atlantic section 24,944,000 pounds were frozen, or about one-fifth of the total. A large variety of diversified species were frozen here, although those most predominant were mackerel, butterfish, whiting, weakfish, and shellfish. The freezers in this section preserved large quantities of fish produced by traps along the New Jersey coast. In the North Central East section 10 per cent of the total was frozen. Here the predominant species were lake herring, lake trout, and whitefish. The other sections during 1929 were relatively unimportant in the trade and froze small quantities of fish common to each section.

The freezing plants in the New England section were busiest from June to November, inclusive. Those in the Pacific section during August, September, and October; those in the Middle Atlantic section during June and November with the amount frozen during the other months of the year being somewhat uniform and at a fairly high level. Those plants in the North Central East section were busiest during June, November, and December; and those in the other sections were busiest mostly during the summer or late fall.

Production of frozen fishery products, 1929

BY SPECIES AND MONTHS

Species	Month ended the 15th of—						
	January	February	March	April	May	June	July
	Pounds	*Pounds*	*Pounds*	*Pounds*	*Pounds*	*Pounds*	*Pounds*
Bluefish (all trade sizes)	13,956	10,242	2,275	4,452	3,917	104,538	245,816
Butterfish (all trade sizes)	660	3,817	2,321	----------	180,756	1,263,168	781,716
Catfish	96,042	31,752	8,277	10,765	13,220	49,330	91,597
Cisco (Lake Erie)	6,841	108	1,487	----------	3,199	26,327	45,358
Cisco (lake herring), including bluefin, blackfin, and chub	90,089	45,128	46,279	21,479	46,664	115,333	53,584
Cisco (tullibees, Canadian lakes)	114,564	127,596	117,628	27,958	5,577	79,286	41,831
Cod, haddock, hake, pollock	332,378	85,322	220,026	623,813	712,390	931,547	910,501
Croaker	8,770	34,325	12,755	837,524	39,176	318,383	265,880
Flounders	43,145	37,444	15,670	133,457	208,001	412,389	166,922
Halibut (all trade sizes)	204,641	193,346	538,128	596,533	1,989,158	1,974,447	1,718,635
Herring, sea (including alewives and bluebacks)	168,054	773,519	761,518	446,707	501,872	581,597	326,164
Lake trout	40,160	31,879	12,885	58,628	29,945	103,958	57,716
Mackerel (except Spanish)	232,401	164,053	155,387	56,157	252,409	1,567,377	3,496,470
Pike, blue and sauger	10,648	450	10,184	1,404	15,621	62,589	44,055
Pike, yellow or wall-eyed	16,695	5,242	6,623	53	13,185	35,635	46,867
Pike (including pickerel, jacks, and yellow jack)	44,199	128,115	31,772	93,681	21,310	23,958	14,863
Sablefish (black cod)	27,183	32,798	16,860	12,695	47,284	77,154	170,691
Salmon, chinook	3,560	2,580	----------	----------	50,430	157,923	414,532
Salmon, silver	198,228	153,929	94,312	2,607	28,070	108,819	380,964
Salmon, fall and pink	75,014	108,579	37,475	5,978	20,443	3,694	13,306
Salmon, steelhead trout	191,448	8,749	11,483	----------	6,407	20,960	228,892
Salmon, all other	64,216	70,525	69,348	12,164	100,776	298,694	487,864
Scup (porgies)	11,441	303	3,158	----------	132,979	399,567	184,907
Shad and shad roe	22,542	59,033	18,031	11,430	92,451	168,596	22,103
Shellfish	296,174	531,049	166,736	113,627	147,012	326,629	398,832
Smelts, eulachon, etc	382,938	515,291	126,471	53,713	6,786	35,449	110
Squid	24,907	16,210	9,262	64,008	895,990	1,713,732	280,989
Sturgeon and spoonbill cat	12,682	4,308	747	7,260	41,556	81,266	175,930
Suckers	4,119	11,300	8,606	9,966	544	63,487	2,810
Weakfish (including southern "sea trout")	137,010	108,599	81,216	69,599	141,689	251,081	245,608
Whitefish	48,880	77,337	70,934	117,268	90,580	247,501	225,083
Whiting	395,382	29,849	138,574	14,205	124,197	989,845	2,343,868
Miscellaneous frozen fish	1,192,496	724,873	572,194	1,834,338	1,039,921	1,788,818	1,948,964
Total	4,511,463	4,127,650	3,368,622	5,241,469	7,003,515	14,383,077	15,833,428

Production of frozen fishery products, 1929—Continued

BY SPECIES AND MONTHS—Continued

Species	Month ended the 15th of—					
	August	September	October	November	December	Total
	Pounds	*Pounds*	*Pounds*	*Pounds*	*Pounds*	*Pounds*
Bluefish (all trade sizes)	322, 510	101, 487	51, 486	15, 644	7, 631	883, 954
Butterfish (all trade sizes)	208, 005	228, 867	58, 368	177, 118	27, 810	2, 932, 606
Catfish	200, 933	90, 737	37, 545	92, 165	142, 634	864, 997
Cisco (Lake Erie)	35, 040	122, 448	20, 449	27, 762	50, 833	339, 852
Cisco (lake herring), including bluefin, blackfin, and chub	219, 290	268, 544	177, 663	896, 099	949, 988	2, 930, 149
Cicso (tullibees, Canadian lakes)	45, 391	9, 766	25, 432	117, 564	27, 070	739, 663
Cod, haddock, hake, pollock	1, 607, 654	1, 151, 800	1, 299, 499	2, 091, 704	1, 213, 325	11, 179, 959
Croaker	927, 900	382, 583	19, 892	20, 567	10, 241	2, 877, 996
Flounders	102, 883	50, 478	111, 058	173, 076	86, 470	1, 540, 993
Halibut (all trade sizes)	1, 672, 398	2, 007, 878	1, 577, 118	499, 287	1, 111, 661	14, 083, 230
Herring, sea (including alewives and bluebacks)	815, 194	922, 951	619, 538	1, 773, 554	717, 871	8, 408, 539
Lake trout	138, 159	116, 266	204, 338	1, 004, 943	237, 272	2, 036, 149
Mackerel (except Spanish)	1, 519, 823	1, 233, 425	2, 045, 169	297, 631	281, 172	11, 301, 474
Pike, blue and sauger	15, 105	17, 168	194, 798	305, 919	214, 316	892, 257
Pike, yellow or wall-eyed	21, 903	60, 695	28, 793	19, 484	1, 355	256, 530
Pike (including pickerel, jacks, and yellow jack)	29, 416	54, 245	83, 674	92, 950	8, 541	626, 724
Sablefish (black cod)	197, 103	354, 222	444, 761	762, 756	193, 326	2, 336, 833
Salmon, chinook	328, 405	289, 558	179, 607	10, 091	52, 856	1, 489, 542
Salmon, silver	1, 354, 529	740, 471	960, 931	746, 061	90, 915	4, 859, 836
Salmon, fall and pink	354, 874	79, 229	553, 742	1, 121, 291	169, 023	2, 542, 648
Salmon, steelhead trout	389, 363	221, 828	60, 076	12, 817	23, 149	1, 175, 172
Salmon, all other	423, 604	369, 428	319, 360	111, 642	46, 520	2, 374, 141
Scup (porgies)	281, 083	47, 818	840	3, 686	----------	1, 065, 782
Shad and shad roe	96, 948	61, 304	2, 009	8, 008	40, 895	603, 350
Shellfish	244, 416	464, 927	473, 653	971, 739	485, 714	4, 620, 508
Smelts, eulachon, etc	1, 160	13, 623	17, 548	39, 506	123, 568	1, 316, 163
Squid	353, 377	255, 191	6, 298	129, 198	36, 509	3, 785, 671
Sturgeon and spoonbill cat	46, 653	133, 058	20, 530	634, 250	17, 981	1, 176, 221
Suckers	1, 216	15, 965	16, 857	12, 099	850	147, 819
Weakfish (including southern "sea trout")	386, 403	438, 812	164, 494	90, 831	30, 404	2, 145, 746
Whitefish	214, 010	164, 334	77, 424	429, 189	199, 085	1, 961, 625
Whiting	2, 372, 997	298, 065	292, 948	840, 610	993, 541	8, 834, 081
Miscellaneous frozen fish	2, 631, 700	2, 003, 377	1, 683, 629	1, 814, 028	1, 978, 041	19, 212, 379
Total	17, 559, 454	12, 770, 548	11, 829, 527	15, 343, 269	9, 570, 567	121, 542, 589

Production of frozen fishery products, 1929—Continued

BY GEOGRAPHICAL SECTIONS AND SPECIES [1]

[Expressed in thousands of pounds; that is, 000 omitted]

Species	New England	Middle Atlantic	South Atlantic	North Central, East	North Central, West	South Central	Pacific	Total
Bluefish (all trade sizes)	10	775	19	71	7	2	--------	884
Butterfish (all trade sizes)	424	2, 261	218	30	--------	--------	--------	2, 933
Catfish	50	9	120	202	295	189	--------	865
Cisco (Lake Erie)	--------	330	--------	9	--------	--------	1	340
Cisco (lake herring), including bluefin, blackfin, and chub	--------	495	--------	1, 690	745	--------	--------	2, 930
Cisco (tullibees, Canadian lakes)	41	401	--------	205	91	--------	2	740
Cod, haddock, hake, pollock	9, 491	632	17	111	669	17	243	11, 180
Croakers	--------	1, 096	1, 568	214	--------	--------	--------	2, 878
Flounders	755	749	--------	5	1	--------	31	1, 541
Halibut (all trade sizes)	299	654	--------	780	79	1	12, 270	14, 083
Herring, sea (including alewives and bluebacks)	5, 230	473	1	621	57	--------	2, 027	8, 409
Lake trout	2	177	--------	1, 686	169	2	--------	2, 036
Mackerel (except Spanish)	8, 197	2, 468	--------	118	95	--------	423	11, 301
Pike, blue and sauger	10	487	--------	363	1	16	15	892
Pike, yellow or wall-eyed	--------	80	--------	172	4	--------	--------	256
Pike (including pickerel, jack and yellow jack)	--------	33	--------	413	181	--------	--------	627
Sablefish (black cod)	--------	--------	--------	36	25	--------	2, 276	2, 337
Salmon, chinook	2	22	--------	43	8	--------	1, 415	1, 490
Salmon, silver	51	226	--------	55	9	--------	4, 519	4, 860
Salmon, pink	12	59	17	95	16	--------	2, 344	2, 543
Salmon, steelhead trout	--------	7	--------	--------	--------	--------	1, 168	1, 175
Salmon, all other	50	171	--------	110	26	--------	2, 017	2, 374
Scup (porgies)	237	818	--------	2	9	--------	--------	1, 066
Shad and shad roe	110	232	4	65	4	--------	188	603
Shellfish	394	1, 503	524	868	206	5	1, 120	4, 620
Smelts, eulachon, etc	31	1, 099	--------	83	2	--------	101	1, 316
Squid	2, 667	1, 086	--------	32	1	--------	--------	3, 786
Sturgeon and spoonbill cat	--------	954	9	32	45	38	98	1, 176
Suckers	--------	3	--------	141	2	2	--------	148
Weakfish (including southern "sea trout")	--------	1, 571	575	--------	--------	--------	--------	2, 146
Whitefish	15	572	--------	1, 149	223	3	--------	1, 962
Whiting	6, 379	2, 234	9	9	202	1	--------	8, 834
Miscellaneous frozen fish	5, 054	3, 267	2, 584	2, 494	886	1, 867	3, 060	19, 212
Total	39, 511	24, 944	5, 665	11, 904	4, 058	2, 143	33, 318	121, 543

BY GEOGRAPHICAL SECTIONS AND MONTHS [1]

[Expressed in thousands of pounds; that is, 000 omitted]

Month ended the 15th of—	New England	Middle Atlantic	South Atlantic	North Central, East	North Central, West	South Central	Pacific	Total
January	383	1, 376	119	780	779	108	966	4, 511
February	76	1, 398	58	912	154	78	1, 452	4, 128
March	224	728	23	407	102	102	1, 783	3, 369
April	821	1, 272	840	510	159	388	1, 251	5, 241
May	2, 122	1, 388	231	264	160	116	2, 723	7, 004
June	4, 973	4, 042	507	1, 803	84	225	2, 749	14, 383
July	8, 375	2, 427	647	718	211	208	3, 247	15, 833
August	7, 920	2, 670	1, 044	594	442	299	4, 590	17, 559
September	4, 418	2, 084	575	958	356	194	4, 186	12, 771
October	3, 888	1, 788	167	831	333	119	4, 704	11, 830
November	4, 317	3, 269	520	2, 620	730	145	3, 742	15, 343
December	1, 994	2, 502	934	1, 507	548	161	1, 925	9, 571
Total	39, 511	24, 944	5, 665	11, 904	4, 058	2, 143	33, 318	121, 543

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[1] New England includes the six States of that section; Middle Atlantic—New York, New Jersey, and Pennsylvania; South Atlantic—Delaware, Maryland, District of Columbia, Virginia, West Virginia, North Carolina, South Carolina, Georgia, and Florida; North Central, East—Ohio, Indiana, Illinois, Michigan, and Wisconsin; North Central, West—Minnesota, Iowa, Missouri, North Dakota, South Dakota, Nebraska, and Kansas; South Central—Kentucky, Tennessee, Alabama, Mississippi, Louisiana, Texas, Oklahoma, and Arkansas; Pacific—Washington, Oregon, California, and Alaska.

Production of frozen fishery products in various years, 1920 to 1929

[Expressed in thousands of pounds; that is, 000 omitted]

Year	Month ended the 15th of—						
	January	February	March	April	May	June	July
1920	2, 291	2, 274	2, 630	2, 465	3, 688	10, 094	12, 762
1921	4, 005	2, 843	1, 770	2, 413	2, 698	9, 624	10, 151
1922	2, 442	1, 453	1, 364	1, 497	1, 980	5, 850	7, 376
1923	2, 742	1, 662	1, 412	1, 400	5, 027	7, 671	11, 872
1924	3, 179	2, 440	2, 417	2, 729	6, 040	8, 282	11, 996
1925	3, 933	2, 193	3, 488	4, 315	5, 857	10, 800	11, 221
1928	2, 349	2, 849	4, 542	2, 202	5, 518	18, 415	16, 046
1929	4, 511	4, 128	3, 369	5, 241	7, 004	14, 383	15, 833

Year	Month ended the 15th of—					Total
	August	September	October	November	December	
1920	13, 620	11, 804	11, 169	9, 712	9, 751	92, 260
1921	9, 845	9, 356	9, 990	9, 869	8, 173	80, 737
1922	9, 121	10, 827	16, 830	9, 344	7, 070	75, 154
1923	13, 944	16, 417	12, 512	6, 952	9, 938	91, 549
1924	15, 542	10, 585	14, 878	10, 855	8, 381	97, 324
1925	10, 902	11, 595	8, 593	11, 718	6, 550	91, 165
1928	17, 130	11, 263	9, 373	13, 403	10, 548	113, 638
1929	17, 559	12, 771	11, 830	15, 343	9, 571	121, 543

Production of frozen fishery products in 1929 and 1928, compared

Species	1929	1928	Increase (+) or decrease (−) 1929 compared with 1928
	Pounds	*Pounds*	*Per cent*
Bluefish (all trade sizes)	883, 954	687, 966	+28
Butterfish (all trade sizes)	2, 932, 606	1, 477, 405	+98
Catfish	864, 997	457, 666	+89
Cisco (Lake Erie)	339, 852	645, 455	−47
Cisco (lake herring), including bluefin, blackfin, and chub	2, 930, 149	2, 061, 152	+42
Cisco (tullibees, Canadian lakes)	739, 663	1, 303, 409	−43
Cod, haddock, hake, pollock	11, 179, 959	4, 854, 217	+130
Croaker	2, 877, 996	1, 754, 454	+64
Flounders	1, 540, 993	1, 465, 223	+5
Halibut (all trade sizes)	14, 083, 230	12, 525, 445	+12
Herring, sea (including alewives and bluebacks)	8, 408, 539	6, 152, 244	+37
Lake trout	2, 036, 149	2, 537, 181	−20
Mackerel (except Spanish)	11, 301, 474	11, 550, 854	−2
Pike, blue and sauger	892, 257	1, 789, 656	−50
Pike, yellow or wall-eyed	256, 530	349, 112	−27
Pike (including pickerel, jacks, and yellow jack)	626, 724	874, 880	−28
Sablefish (black cod)	2, 336, 833	2, 106, 414	+11
Salmon, chinook	1, 489, 542	1, 689, 039	−12
Salmon, silver	4, 859, 836	6, 067, 298	−20
Salmon, fall and pink	2, 542, 648	2, 538, 690	(+)
Salmon, steelhead trout	1, 175, 172	1, 137, 747	+3
Salmon, all other	2, 374, 141	3, 212, 011	−26
Scup (porgies)	1, 065, 782	1, 218, 785	−13
Shad and shad roe	603, 350	604, 451	(−)
Shellfish	4, 620, 508	6, 096, 031	−24
Smelts, eulachon, etc	1, 316, 163	748, 751	+76
Squid	3, 785, 671	6, 801, 199	−44
Sturgeon and spoonbill cat	1, 176, 221	527, 100	+123
Suckers	147, 819	164, 817	−10
Weakfish (including southern "sea trout")	2, 145, 746	3, 221, 982	−34
Whitefish	1, 961, 625	1, 616, 203	+21
Whiting	8, 834, 081	10, 514, 686	−16
Miscellaneous frozen fish	19, 212, 379	14, 886, 375	+29
Total	121, 542, 589	113, 637, 898	+7

Production of certain species of frozen fish for various years 1920 to 1929

Year	Mackerel	Salmon [1]	Halibut	Whiting	Cod, haddock, hake, and pollock
	Pounds	*Pounds*	*Pounds*	*Pounds*	*Pounds*
920	4, 835, 173	7, 836, 620	10, 625, 029	10, 208, 755	3, 940, 163
921	2, 694, 684	10, 033, 619	10, 733, 803	5, 527, 047	1, 922, 154
922	6, 165, 248	12, 143, 194	5, 122, 396	6, 058, 126	1, 045, 462
923	7, 248, 381	11, 043, 424	10, 211, 251	8, 664, 680	2, 222, 677
924	5, 457, 676	14, 309, 666	14, 650, 787	7, 528, 339	1, 862, 163
925	8, 948, 297	12, 153, 515	12, 041, 155	10, 152, 799	2, 781, 419
928	11, 550, 854	14, 644, 785	12, 525, 445	10, 514, 686	4, 854, 217
929	11, 301, 474	12, 441, 339	14, 083, 230	8, 834, 081	11, 179, 959

[1] Including steelhead trout.

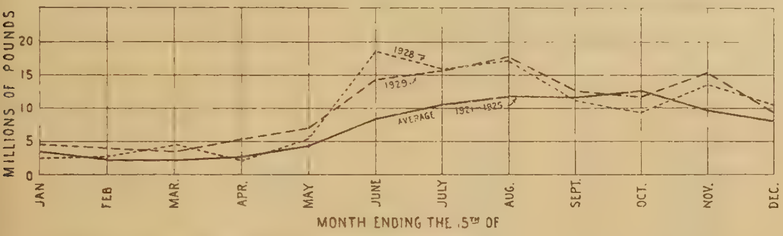

FIGURE 10.—Fish frozen monthly in 1928 and 1929 and the 5-year average, 1921 to 1925

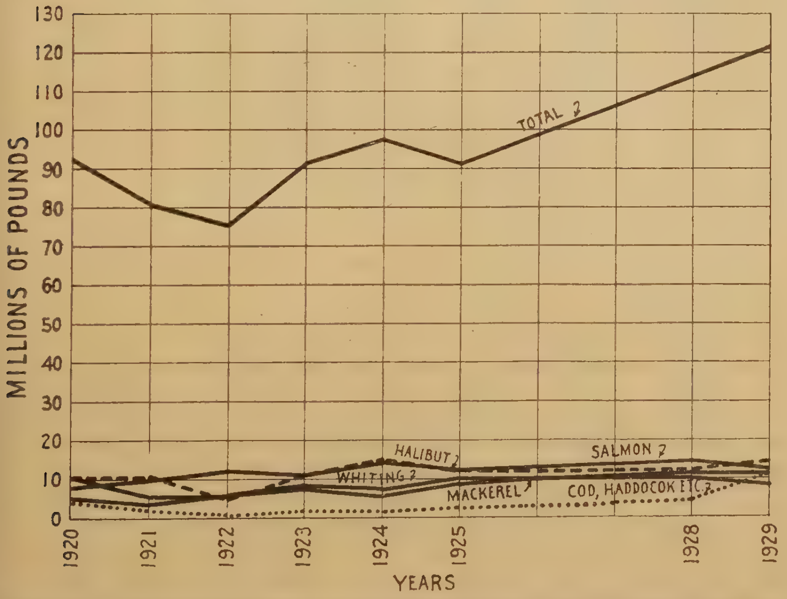

FIGURE 11.—Fishery products frozen in the United States and Alaska for various years, 1920 to 1929

HOLDINGS

During 1929 the average monthly holdings of frozen fish and shellish increased 4 per cent over the average monthly holdings during 928 and 17 per cent over the 5-year average of monthly holdings. ndividual monthly holdings during the year had a tendency to be above normal, for, during each month they were from 12 to 42 pe cent higher than the 5-year average. Compared with the respective monthly holdings in 1928 they were 2 to 20 per cent higher during eight months of the year and 2 or 3 per cent lower during only four months. Monthly holdings in 1929 were largest from August t December, inclusive, being in many instances more than double those for certain months from January to July, inclusive. This i correlated[3] somewhat with the amounts of fish frozen in that there i an accumulation of stocks during the summer when most fishing i done. These are then carried over until winter when there is little fishing. At this time they are drawn upon heavily and reach a low ebb just at the beginning of the spring fishing season.

A maximum of 79,439,000 pounds were held on November 15 and a minimum of 30,174,000 pounds on May 15. Holdings during the year averaged about 55,900,000 pounds monthly.

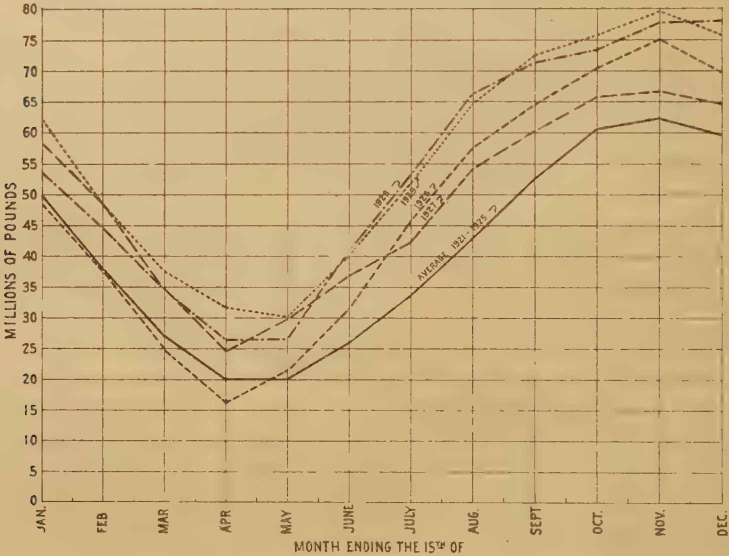

FIGURE 12.—Monthly holdings of frozen fish, 1926 to 1929 and 5-year average, 1921 to 1925

On the average, the monthly holdings in the New England sectio were greatest. In 1929 they amounted to 15,241,000 pounds Large quantities of frozen package fish are held in this section Monthly holdings in the Middle Atlantic section were second largest and amounted to 14,759,000 pounds on the average, in spite of th fact this section ranked third in the amount of fish and shellfis frozen in 1929. The large holdings in this section are due to th imports from other sections (such as the Pacific Coast, North Centra East, and North Central West, sections), which are stored her pending sale in the large consumption centers in the Middle Atlanti section. Monthly holdings in the Pacific section were third largest and averaged 12,090,000 pounds. The monthly holdings in the othe sections averaged between 770,000 and 7,552,000 pounds.

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[3] Holdings can not be correlated directly with the amount of fish frozen, due to the fact that we impor fish frozen in Canada and Mexico and certain other countries, although general deductions can be drawn

Holdings of frozen fishery products, by species and months, 1929

Species	Month ended the 15th of—					
	January	February	March	April	May	June
	Pounds	*Pounds*	*Pounds*	*Pounds*	*Pounds*	*Pounds*
(all trade sizes)	581, 317	469, 577	359, 290	264, 792	203, 266	269, 947
Butterfish (all trade sizes)	708, 540	480, 279	295, 948	219, 435	353, 125	1, 591, 095
Catfish	287, 344	228, 472	116, 296	68, 890	59, 002	93, 924
Cisco (Lake Erie)	146, 444	103, 879	62, 961	52, 491	45, 357	40, 817
Cisco (lake herring), including bluefin, blackfin, and chub	1, 587, 209	773, 147	497, 069	328, 608	168, 409	223, 099
Cisco (tullibees, Canadian lakes)	1, 849, 916	2, 269, 891	2, 387, 259	1, 942, 276	1, 601, 880	1, 483, 132
Cod, haddock, hake, pollock	2, 957, 609	1, 482, 275	1, 068, 767	1, 486, 011	2, 021, 324	2, 969, 942
Croaker	495, 040	323, 622	87, 371	860, 775	415, 101	653, 170
Flounders	826, 308	613, 677	487, 169	498, 835	651, 878	856, 448
Halibut (all trade sizes)	4, 747, 250	2, 868, 110	2, 171, 749	2, 351, 050	4, 123, 865	5, 932, 80
Herring, sea (including alewives and bluebacks)	2, 196, 315	1, 846, 071	1, 963, 822	1, 694, 690	1, 675, 950	1, 714, 35
Lake trout	1, 878, 725	1, 342, 644	799, 555	562, 859	449, 751	462, 81
Mackerel (except Spanish)	7, 456, 437	5, 884, 517	3, 993, 333	2, 435, 463	1, 574, 300	2, 886, 12
Pike, blue and sauger	1, 129, 787	903, 019	638, 092	521, 219	448, 489	434, 57
Pike, yellow or wall-eyed	197, 407	268, 851	292, 535	297, 699	171, 475	209, 10
Pike (including pickerel, jacks, and yellow jack)	506, 881	596, 471	593, 234	690, 968	590, 529	623, 86
Sablefish (black cod)	1, 854, 549	1, 312, 789	955, 200	774, 558	615, 619	499, 44
Salmon, chinook	958, 353	660, 986	568, 535	439, 847	369, 376	457, 87
Salmon, silver	4, 008, 512	2, 705, 577	1, 687, 600	837, 109	477, 510	470, 65
Salmon, fall and pink	1, 571, 953	705, 652	706, 094	510, 118	385, 750	259, 12
Salmon, steelhead trout	254, 462	120, 812	135, 205	51, 292	46, 200	50, 01
Salmon, all other	1, 215, 085	1, 095, 706	830, 885	646, 604	586, 881	739, 83
Scup (porgies)	572, 087	427, 727	224, 569	116, 350	213, 936	586, 42
Shad and shad roe	482, 808	383, 559	230, 023	155, 004	218, 127	370, 061
Shellfish	2, 781, 906	2, 866, 164	2, 334, 026	1, 768, 016	1, 505, 485	1, 562, 262
Smelts, eulachon, etc	648, 125	1, 049, 351	1, 341, 806	881, 686	659, 519	672, 410
Squid	3, 425, 055	2, 818, 948	2, 044, 533	1, 402, 360	1, 901, 130	3, 358, 468
Sturgeon and spoonbill cat	668, 311	793, 505	1, 189, 013	1, 209, 417	1, 098, 911	1, 000, 968
Suckers	63, 487	33, 902	43, 520	49, 004	56, 214	114, 572
Weakfish (including southern "sea trout")	2, 170, 424	1, 459, 072	814, 309	402, 089	433, 113	655, 569
Whitefish	1, 233, 902	1, 878, 637	1, 752, 145	1, 558, 674	1, 214, 435	1, 276, 064
Whiting	5, 810, 756	4, 051, 263	3, 042, 907	2, 076, 412	1, 502, 942	2, 248, 107
Miscellaneous frozen fish	7, 102, 240	5, 546, 334	4, 029, 596	4, 531, 924	4, 335, 047	5, 380, 755
Total	62, 374, 544	48, 364, 486	37, 744, 416	31, 686, 525	30, 173, 896	40, 147, 83

Species	Month ended the 15th of—					
	July	August	September	October	November	December
	Pounds	*Pounds*	*Pounds*	*Pounds*	*Pounds*	*Pounds*
Bluefish (all trade sizes)	473, 065	762, 497	783, 669	743, 585	653, 330	560, 066
Butterfish (all trade sizes)	2, 193, 142	2, 340, 510	2, 470, 855	2, 307, 558	2, 353, 034	2, 107, 894
Catfish	158, 465	339, 602	364, 015	321, 533	376, 553	433, 773
Cisco (Lake Erie)	59, 929	89, 117	200, 039	175, 364	140, 880	193, 010
Cisco (lake herring), including bluefin, blackfin, and chub	198, 756	388, 814	814, 576	937, 220	1, 813, 260	2, 323, 970
Cisco (tullibees, Canadian lakes)	1, 391, 983	1, 247, 417	1, 181, 430	1, 035, 587	1, 065, 203	1, 250, 922
od, haddock, hake, pollock	3, 679, 178	5, 393, 924	6, 399, 973	5, 312, 277	4, 920, 893	4, 067, 218
roaker	869, 456	1, 783, 136	1, 854, 297	1, 247, 278	1, 072, 221	918, 466
lounders	872, 975	851, 489	839, 311	818, 606	870, 433	826, 847
Halibut (all trade sizes)	7, 852, 695	9, 449, 486	11, 261, 256	12, 287, 584	10, 437, 287	9, 719, 089
Herring, sea (including alewives and bluebacks)	1, 458, 656	1, 815, 693	2, 124, 864	2, 080, 863	3, 025, 748	3, 213, 599
ake trout	440, 405	624, 712	791, 954	1, 078, 635	2, 012, 501	1, 854, 634
Mackerel (except Spanish)	6, 074, 849	7, 224, 971	8, 176, 234	10, 397, 493	9, 583, 361	8, 091, 395
ike, blue and sauger	405, 742	368, 509	402, 904	712, 325	1, 062, 145	1, 192, 775
ike, yellow or wall-eyed	309, 497	308, 832	346, 420	477, 349	564, 086	531, 577
ike (including pickerel, jacks, and yellow jack)	456, 842	417, 302	480, 428	540, 056	868, 178	764, 296
ablefish (black cod)	585, 019	683, 024	802, 706	1, 114, 423	1, 803, 338	1, 794, 605
almon, chinook	817, 145	1, 071, 368	1, 262, 124	1, 293, 093	1, 296, 485	1, 239, 115
almon, silver	753, 968	2, 023, 946	2, 693, 937	3, 618, 463	3, 940, 831	3, 493, 174
almon, fall and pink	237, 826	547, 602	638, 981	1, 248, 103	2, 314, 838	2, 151, 655
almon, steelhead trout	307, 329	457, 039	576, 796	449, 281	347, 982	271, 112
almon, all other	1, 066, 742	1, 385, 325	1, 655, 696	1, 930, 938	1, 848, 333	1, 568, 708
cup (porgies)	722, 549	951, 607	1, 005, 181	926, 378	857, 862	767, 790
had and shad roe	353, 001	426, 710	463, 232	427, 185	401, 250	455, 124
hellfish	1, 528, 045	1, 378, 097	1, 486, 857	1, 636, 129	2, 151, 829	2, 195, 211

Holdings of frozen fishery products, by species and months, 1929—Continued

Species	Month ended ths 15th of—					
	July	August	September	October	November	December
	Pounds	*Pouuds*	*Pounds*	*Pounds*	*Pounds*	*Pounds*
Smelts, eulachon, etc	717,766	692,025	690,055	678,626	645,234	552,003
Squid	3,288,473	3,238,577	2,959,612	2,495,997	2,033,842	1,792,097
Sturgeon and spoonbill cat	956,035	952,968	936,320	850,283	1,269,854	1,191,194
Suckers	112,364	103,006	117,347	130,406	132,501	110,038
Weakfish (including southern "sea trout")	867,768	1,212,191	1,605,817	1,587,693	1,521,186	1,471,006
Whitefish	1,377,073	1,596,366	1,617,843	1,535,800	1,899,025	1,864,152
Whiting	4,432,686	6,010,146	5,660,185	5,270,222	5,691,549	5,935,788
Miscellaneous frozen fish	6,644,280	8,673,908	10,008,868	10,197,369	10,463,694	10,904,686
Total	51,663,704	64,809,916	72,673,782	75,863,702	79,438,746	75,806,989

Monthly holdings of frozen fishery products for 1929 and 1928, and the 5-year average, compared

[Expressed in thousands of pounds; that is, 000 omitted]

Month ended the 15th of—	1929	1928	5-year average	Increase (+) or decrease (−)	
				Compared with 1928	Compared with 5-year average
				Per cent	*Per cent*
January	62,375	53,921	53,738	+16	+16
February	48,364	44,877	43,080	+8	+12
March	37,744	34,528	30,750	+9	+23
April	31,687	26,473	22,258	+20	+42
May	30,174	26,513	24,684	+14	+22
June	40,148	40,946	33,617	−2	+19
July	51,664	53,140	43,472	−3	+19
August	64,810	66,170	54,872	−2	+18
September	72,674	71,352	61,676	+2	+18
October	75,864	73,410	67,014	+3	+13
November	79,439	77,677	70,351	+2	+13
December	75,807	78,090	67,819	−3	+12
Average	55,896	53,925	47,778	+4	+17

Monthly holdings of frozen fishery products, 1929, by geographical sections [1]

[Expressed in thousands of pounds; that is, 000 omitted]

Month ended the 15th of—	New England	Middle Atlantic	South Atlantic	North Central, East	North Central, West	South Central	Pacific [2]	Total
January	15,424	18,702	2,289	10,434	4,006	569	10,951	62,375
February	10,569	16,365	1,709	8,878	3,618	563	6,662	48,364
March	6,804	13,447	892	7,087	3,444	474	5,596	37,744
April	4,684	11,078	1,199	5,896	3,224	675	4,931	31,687
May	4,944	9,740	722	4,953	2,746	608	6,461	30,174
June	8,908	12,266	1,056	6,162	2,769	724	8,263	40,148
July	16,061	13,154	1,651	6,065	2,782	779	11,172	51,664
August	22,357	14,708	2,746	6,094	3,097	1,039	14,769	64,810
September	25,042	15,636	3,158	6,632	3,327	1,060	17,819	72,674
October	24,523	15,814	2,536	7,643	3,544	856	20,948	75,864
November	23,760	17,458	2,596	9,803	4,670	907	20,245	79,439
December	19,804	18,745	3,169	10,974	4,862	987	17,266	75,807
Average	15,241	14,759	1,977	7,552	3,507	770	12,090	55,896

[1] New England includes the 6 States of that section: Middle Atlantic—New York, New Jersey, and Pennsylvania; South Atlantic—Delaware, Maryland, District of Columbia, Virginia ,West Virginia, North Carolina, South Carolina, Georgia, and Florida; North Central, East—Ohio, Indiana, Illinois, Michigan, and Wisconsin; North Central, West—Minnesota, Iowa, Missouri, North Dakota, South Dakota, Nebraska, and Kansas; South Central—Kentucky, Tennessee, Alabama, Mississippi, Louisiana, Texas, Oklahoma, and Arkansas; Pacific—Washington, Oregon, California, and Alaska.

[2] Includes a very small amount of fish held in Colorado in the mountain section.

It is interesting to note the comparison of the holdings of various mportant species during the year 1929 with the normal (average .924–1928) holdings of these stocks. With the ground fish group it s found that during each month in 1929 the holdings were consist-ntly above normal. Those of lake trout were above normal during he first five months of the year, below normal until October, and rom then on during the remainder of the year they were practically he same as in a normal year. The monthly holdings of sea herring vere consistently lower throughout the year than the normal monthly ioldings in spite of the fact that greater quantities of herring were rozen in 1929 than the previous year. Those of squid were above ıormal during this year until September, and from then on they were lightly below normal. Those of whiting followed a normal course ɪractically throughout the entire year. Those of mackerel were .bove normal throughout the entire year, although they nearly .pproached normal during the months from May to September, nclusive. Those of halibut were lower than normal during every ıonth of the year, while those of salmon followed the normal course .ntil about June, and from then on were slightly below normal during he remainder of the year.

Ionthly holdings of certain species of frozen fish in 1929 and normal monthly holdings (average 1924–1928)

Species	Month ended the 15th of—					
	January	February	March	April	May	June
	Pounds	*Pounds*	*Pounds*	*Pounds*	*Pounds*	*Pounds*
od, haddock, hake, pollock:						
Normal	1, 268, 000	970, 000	745, 000	635, 000	835, 000	990, 000
1929	2, 957, 609	1, 482, 275	1, 068, 767	1, 486, 011	2, 021, 324	2, 969, 942
alibut (all trade sizes):						
Normal	6, 959, 000	4, 483, 000	3, 250, 000	3, 411, 000	4, 613, 000	6, 617, 000
1929	4, 747, 250	2, 868, 110	2, 171, 749	2, 351, 050	4, 123, 865	5, 932, 809
erring, sea (including alewives and bluebacks):						
Normal	3, 010, 000	2, 794, 000	2, 557, 000	1, 836, 000	2, 253, 000	2, 396, 000
1929	2, 196, 315	1, 846, 071	1, 963, 822	1, 694, 690	1, 675, 950	1, 714, 353
ake trout:						
Normal	1, 613, 000	1, 246, 000	793, 000	377, 000	383, 000	503, 000
1929	1, 878, 725	1, 342, 644	799, 555	562, 859	449, 751	462, 816
ackerel (except Spanish):						
Normal	4, 322, 000	3, 263, 000	2, 002, 000	1, 030, 000	1, 444, 000	2, 875, 000
1929	7, 456, 437	5, 884, 517	3, 993, 333	2, 435, 463	1, 574, 300	2, 886, 128
lmon (all species, including steel-head trout):						
Normal	7, 128, 000	5, 426, 000	3, 414, 000	2, 408, 000	1, 921, 000	2, 250, 000
1929	8, 008, 365	5, 288, 733	3, 928, 319	2, 484, 970	1, 865, 717	1, 977, 502
uid:						
Normal	1, 245, 000	944, 000	703, 000	318, 000	549, 000	2, 022, 000
1929	3, 425, 055	2, 818, 948	2, 044, 533	1, 402, 360	1, 901, 130	3, 358, 468
hiting:						
Normal	3, 973, 000	2, 719, 000	1, 542, 000	1, 064, 000	914, 000	2, 269, 000
1929	5, 810, 756	4, 051, 263	3, 042, 907	2, 076, 412	1, 502, 942	2, 248, 107

Monthly holdings of certain species of frozen fish in 1929 and normal monthly holdings (average 1924–1928)—Continued

Species	July	August	September	October	November	December
	Pounds	*Pounds*	*Pounds*	*Pounds*	*Pounds*	*Pounds*
Cod, haddock, hake, pollock:						
Normal	1, 129, 000	1, 479, 000	1, 952, 000	2, 269, 000	2, 213, 000	1, 972, 000
1929	3, 679, 178	5, 393, 924	6, 399, 973	5, 312, 277	4, 920, 893	4, 067, 218
Halibut (all trade sizes):						
Normal	8, 542, 000	11, 155, 000	12, 678, 000	12, 672, 000	11, 707, 000	9, 970, 000
1929	7, 852, 695	9, 449, 486	11, 261, 256	12, 287, 584	10, 437, 287	9, 719, 089
Herring, sea (including alewives and bluebacks):						
Normal	2, 389, 000	2, 606, 000	2, 667, 000	3, 009, 000	3, 381, 000	3, 449, 000
1929	1, 458, 656	1, 815, 693	2, 124, 864	2, 080, 863	3, 025, 748	3, 213, 599
Lake trout:						
Normal	644, 000	771, 000	836, 000	1, 078, 000	1, 904, 000	2, 083, 000
1929	440, 405	624, 712	791, 954	1, 078, 635	2, 012, 501	1, 854, 634
Mackerel (except Spanish):						
Normal	4, 946, 000	6, 691, 000	7, 827, 000	7, 827, 000	7, 146, 000	6, 161, 000
1929	6, 074, 849	7, 224, 971	8, 176, 234	10, 397, 493	9, 583, 361	8, 091, 395
Salmon (all species, including steelhead trout):						
Normal	3, 820, 000	6, 057, 000	7, 751, 000	10, 188, 000	10, 573, 000	9, 505, 000
1929	3, 183, 010	5, 485, 280	6, 827, 534	8, 539, 878	9, 748, 469	8, 723, 764
Squid:						
Normal	2, 405, 000	2, 606, 000	2, 523, 000	2, 662, 000	2, 528, 000	2, 171, 000
1929	3, 288, 473	3, 238, 577	2, 959, 612	2, 495, 997	2, 033, 842	1, 792, 097
Whiting:						
Normal	4, 413, 000	5, 986, 000	5, 986, 000	5, 630, 000	5, 770, 000	5, 454, 000
1929	4, 432, 686	6, 010, 146	5, 660, 185	5, 270, 222	5, 691, 549	5, 935, 788

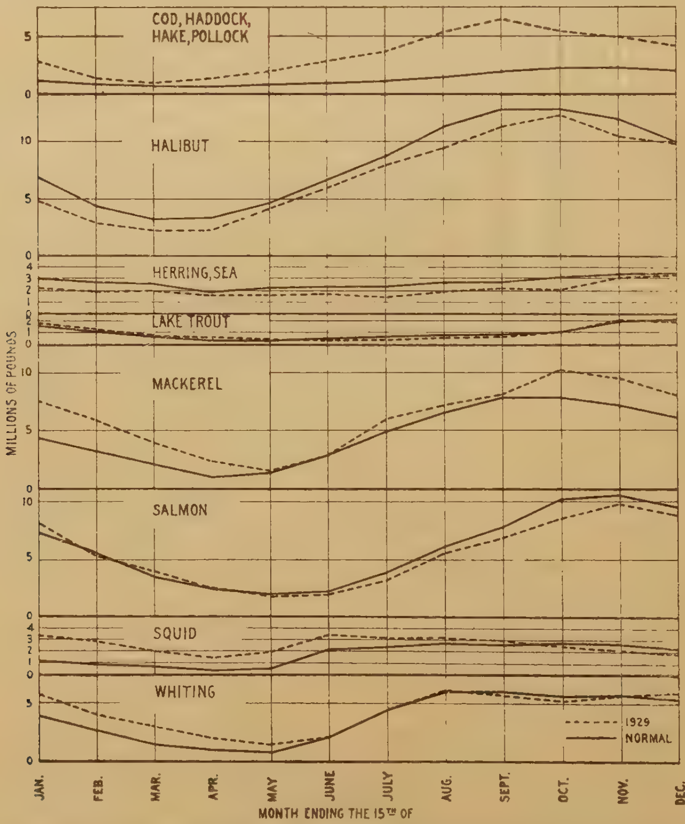

FIGURE 13.—Monthly holdings of certain species of frozen fish in 1929 and normal monthly holdings (average 1924 to 1928)

HOLDINGS OF CURED FISH

Only cured herring and mild-cured salmon are reported held in old-storage warehouses in the United States and Alaska during 1929. Monthly holdings of cured herring varied between 18,900,000 pounds n February and 24,600,000 pounds in September. Monthly holdngs of mild-cured salmon varied between 1,800,000 pounds in May, and 7,200,000 pounds in September. The stocks of cured fish held n cold storage in 1929 were considerably larger than those during he year 1928, and considerably above normal. The monthly holdngs in 1929 compared with normal show increases during 10 months of the year of from 2 to 47 per cent, and decreases of 2 and 8 per ent during only 2 months of the year. Compared with the respecive monthly holdings in 1928 there were increases in 11 months, anging from 6 to 59 per cent. In only 1 month was there a decrease, hat being 3 per cent in December.

Holdings of cured fish, 1929, by species and months

Month ended the 15th of—	Cured herring	Mild-cured salmon	Total
	Pounds	*Pounds*	*Pounds*
anuary	19, 439, 346	4, 219, 251	23, 658, 597
February	18, 897, 121	3, 240, 579	22, 137, 700
March	19, 090, 635	2, 314, 514	21, 405, 149
April	23, 246, 667	1, 934, 272	25, 180, 939
May	23, 560, 584	1, 798, 720	25, 359, 304
une	23, 852, 080	2, 826, 187	26, 678, 267
uly	23, 513, 036	4, 828, 686	28, 341, 722
ugust	22, 730, 960	5, 896, 780	28, 627, 740
eptember	24, 569, 135	7, 191, 949	31, 761, 084
October	23, 802, 003	6, 946, 221	30, 748, 224
November	21, 357, 017	6, 690, 832	28, 047, 849
December	19, 557, 194	5, 419, 722	24, 976, 916

Monthly holdings of cured fish for 1929 and 1928 and the 5-year average, compared

[Expressed in thousands of pounds; that is, 000 omitted]

Month ended the 15th of—	1929	1928	5-year average	Increase (+) or decrease (—)	
				Compared with 1928	Compared with 5-year average
				Per cent	*Per cent*
nuary	23, 659	22, 384	23, 306	+6	+2
ebruary	22, 138	19, 955	21, 063	+11	+5
March	21, 405	16, 508	18, 646	+30	+15
pril	25, 181	16, 564	18, 270	+52	+38
May	25, 359	16, 076	17, 225	+58	+47
ne	26, 678	16, 781	18, 546	+59	+44
ly	28, 342	18, 279	19, 781	+55	+43
ugust	28, 628	20, 494	23, 240	+40	+23
eptember	31, 761	24, 655	27, 050	+29	+17
ctober	30, 748	26, 090	29, 461	+18	+4
ovember	28, 048	26, 440	28, 645	+6	−2
ecember	24, 977	25, 772	27, 150	−3	−8
Average	26, 410	20, 833	22, 699	+27	+16

FOREIGN FISHERY TRADE

The volume of foreign trade in fishery products of the United States in 1929 amounted to $90,395,769, of which $66,565,599 represents the value of those imported for consumption, and $23,830,170 the value of exports of domestic fishery products. Compared with the previous year, this is an increase of 13 per cent in total trade, an increase of 13 per cent in the value of the imports, and an increase of 13 per cent in the value of exports.

Imports consisted of 357,109,092 pounds of edible products (including fresh, frozen, and cured canned fish and shellfish), valued at $38,752,571, and nonedible products (comprised mainly of marine-animal oils, pearls, and imitation pearls), valued at $27,813,028. Compared with 1928 this is a decrease of 1 per cent in the quantity, and an increase of 4 per cent in the value of edible products imported, and an increase of 30 per cent in the value of nonedible products imported. Increases in the value of edible products imported were due chiefly to larger imports of fresh and frozen fish packed in ice, and various species of shellfish packed in ice, or canned. The increase in the value of nonedible products imported was due almost entirely to the greater value of imitation pearls and pearls that had not been strung or set, although considerable of this is due to the greater imports of marine-animal oils.

Fishery exports consisted of edible products amounting to 213,308,744 pounds valued at $23,500,614, and nonedible products valued at $329,556. Compared with the previous year this is an increase of 25 per cent in the quantity, and 13 per cent in the value of edible products imported, and a decrease of 15 per cent in the value of nonedible products imported. The increase in edible exports is attributed chiefly to the larger exports of canned fish, especially sardines, while the exports of other groups of edible products showed little change from the preceding year. Exports of nonedible products also show but little change from those for 1928.

Considering only the amount of fishery products on which we usually have an unfavorable trade balance, the imports of fresh and frozen fish in 1929 were about 20 times the exports in 1928, which is a slightly lower ratio than in the year previous. In 1929 the imports of cured fish were a little over eight times the exports, which is about the same ratio as a year ago. Imports of fresh and canned shellfish were about two times as great as the exports in 1928, which is about the same ratio as in the preceding three years. Imports of all edible fishery products were about two times the exports, which also is about the same ratio as in the previous year. Imports of marine-animal oils in 1929 were about 124 times the amount of exports in 1928, which is a somewhat lower ratio than the preceding two years, indicating that perhaps our marine-animal oil industries are producing a greater quantity of these oils to take care of the domestic trade.

Contrasting those products with those on which we usually have a favorable trade balance, the volume of the exports of canned fish which is the most important export group, was nearly five times the imports, which is a somewhat larger ratio than in 1928. Exports o miscellaneous edible fishery products were about three times the quantity of the imports in 1929, which is a somewhat lower ratio than prevailed in 1928.

Considering the total trade, the value of all fishery products imported was about three times the value of all fishery products exported n 1929, which is the same ratio as prevailed in 1928.

Exports of domestic fishery products, 1928 and 1929

Items	1928		1929	
	Quantity	*Value*	*Quantity*	*Value*
ish, fresh, frozen or packed in ice:				
Salmon pounds	3, 453, 922	$555, 316	3, 582, 174	$545, 575
Other fresh fish do	4, 539, 413	405, 183	5, 231, 641	557, 960
Total do	7, 993, 335	960, 499	8, 813, 815	1, 103, 535
ish, salted or dry cured:				
Cod do	3, 165, 472	361, 968	2, 936, 505	367, 477
Haddock, hake and pollock do	1, 951, 305	150, 548	1, 246, 856	101, 424
Herring do	1, 888, 759	119, 497	2, 170, 295	138, 771
Salmon do	4, 367, 236	975, 502	3, 789, 965	938, 471
Other do	1, 646, 358	128, 892	1, 697, 913	196, 836
Total do	13, 019, 130	1, 736, 407	11, 841, 534	1, 742, 97
ish, pickled:				
Salmon do	1, 913, 000	502, 673	909, 000	251, 188
Other do	932, 800	72, 045	852, 000	56, 808
Total do	2, 845, 800	574, 718	1, 761, 000	307, 996
ish, canned:				
Salmon do	40, 952, 705	7, 661, 733	40, 967, 378	7, 405, 941
Sardines do	80, 253, 474	6, 522, 711	123, 920, 062	9, 418, 511
Other do	9, 362, 496	939, 288	9, 396, 718	898, 537
Total do	130, 568, 675	15, 123, 732	174, 284, 158	17, 722, 989
hellfish:				
Canned do	4, 730, 944	1, 011, 106	4, 857, 375	1, 006, 896
Not canned do	8, 260, 959	1, 194, 194	9, 364, 783	1, 405, 785
Total do	12, 991, 903	2, 205, 300	14, 222, 158	2, 412, 681
ther fish products do	3, 398, 571	185, 697	2, 386, 079	210, 434
Total edible products do	170, 817, 414	20, 786, 353	213, 308, 744	23, 500, 614
Iarine-animal oils do	881, 820	105, 368	1, 120, 022	94, 708
uttons, pearl, or shell gross	454, 529	135, 504	242, 399	82, 915
ponges pounds	114, 917	146, 520	124, 443	151, 933
Total		282, 024		234, 848
Total nonedible products		387, 392		329, 556
Grand total		21, 173, 745		23, 830, 170

Imports of fishery products entered for consumption, 1928 and 1929

Items	1928		1929	
	Pounds	*Value*	*Pounds*	*Value*
Edible fishery products:				
Fish, fresh, frozen, or packed in ice—				
Cod, haddock, hake, and pollock	829, 906	$36, 974	1, 036, 046	$67, 408
Eels	891, 000	110, 191	501, 536	73, 839
Fresh-water fishes	52, 458, 338	5, 191, 666	56, 600, 927	5, 617, 282
Halibut	4, 357, 977	490, 653	5, 815, 711	732, 898
Herring (frozen)	2, 219, 299	101, 986	1, 756, 965	89, 583
Herring (fresh sea)	54, 331, 131	344, 212	36, 601, 482	251, 549
Mackerel	2, 169, 342	146, 157	1, 623, 120	96, 757
Salmon	6, 029, 845	683, 181	4, 319, 261	571, 170
Smelts	8, 800, 895	1, 209, 779	6, 952, 489	1, 005, 502
Swordfish	802, 045	132, 371	723, 821	88, 353
Tuna	30, 351, 313	1, 852, 999	50, 695, 484	2, 631, 172
Other dutiable	8, 036, 000	817, 941	7, 516, 479	819, 847
Total	171, 277, 091	11, 118, 110	174, 143, 321	12, 045, 360
Fish, salted, dried, smoked, or pickled—				
Cod, dried	30, 782, 655	2, 556, 509	28, 012, 786	2, 626, 920
Finnan haddie	1, 237, 452	107, 230	1, 056, 106	102, 354
Hake and pollock, dried	1, 884, 404	112, 135	1, 586, 030	99, 465
Herring—				
Dried	1, 036, 843	51, 863	391, 988	22, 149
Pickled or salted	46, 439, 695	3, 064, 147	44, 163, 702	2, 768, 004
Smoked, skinned, or boned	73, 020	7, 811	10, 686	980
Mackerel, pickled or salted	8, 130, 849	568, 700	7, 883, 422	606, 782
Salmon, dried	4, 225	443	1, 460	300
Salmon, kippered, smoked, salted, pickled, or otherwise prepared	820, 470	95, 353	769, 734	128, 041
Other kippered, smoked, salted, pickled, or otherwise prepared, not elsewhere specified	25, 464, 235	2, 338, 707	25, 219, 712	2, 526, 026
Other dried fish	5, 289, 517	712, 998	4, 408, 240	615, 867
Others in bulk or packages	3, 233, 555	365, 303	992, 899	135, 603
Total	124, 396, 920	9, 981, 199	114, 496, 765	9, 632, 491
Fish packed in oil or other substances—				
Sardines	29, 243, 293	5, 154, 491	31, 389, 716	5, 550, 902
All others	5, 132, 731	1, 336, 825	5, 135, 207	1, 301, 533
Total	34, 376, 024	6, 491, 316	36, 524, 923	6, 852, 435
Fish roe, frozen, prepared, or preserved—				
Caviar	472, 257	825, 368	487, 046	793, 360
Other fish roe, preserved	299, 492	56, 598	331, 476	65, 308
Total	771, 749	881, 966	818, 522	858, 668
Shellfish—				
Crabs	76, 660	14, 879	203, 825	16, 415
Crab meat packed in ice, frozen, or otherwise prepared or preserved	12, 506, 130	4, 897, 835	10, 346, 999	4, 646, 504
Lobsters, canned	1, 605, 881	1, 004, 472	1, 490, 194	936, 959
Lobsters (other than canned), fresh, frozen, packed in ice, or prepared or preserved in any manner (not specially provided for)	6, 537, 792	1, 720, 850	8, 628, 826	2, 231, 298
Turtles	670, 501	38, 041	632, 674	33, 396
Other shellfish and shrimp	8, 548, 262	1, 242, 411	9, 823, 043	1, 499, 045
Total	29, 945, 226	8, 918, 488	31, 125, 561	9, 363, 617
Total edible fishery products	360, 767, 010	37, 391, 079	357, 109, 092	38, 752, 571
Nonedible fishery products:	*Quantity*		*Quantity*	
Marine-animal oils—				
Cod oil gallons	1, 569, 234	801, 278	2, 090, 818	1, 019, 582
Cod-liver oil do	2, 571, 936	2, 522, 672	2, 860, 728	2, 448, 162
Herring, menhaden, and sod oil do	5, 116, 716	1, 784, 293	4, 628, 428	1, 803, 803
Other fish oils do	316, 471	92, 080	465, 859	144, 383
Seal oil do	194, 794	86, 407	630, 778	281, 021
Whale oil, sperm do	442, 041	167, 776	346, 621	145, 916
Whale oil, other do	6, 456, 866	3, 021, 378	7, 540, 329	3, 529, 021
Total do	16, 668, 058	8, 475, 884	18, 563, 561	9, 371, 888
Pearls and imitation pearl—				
Pearls and parts, not strung or set	----------------	7, 083, 654	----------------	10, 345, 42
Imitation half pearls and hollow or filled pearls, without holes or with holes partly through	----------------	165, 499	----------------	68, 65
Imitation solid pearls, wholly or partly pierced, mounted or unmounted	----------------	40, 298	----------------	30, 01
Imitation pearl beads	----------------	1, 352, 115	----------------	1, 373, 39
Total	----------------	8, 641, 566	----------------	11, 817, 48

Imports of fishery products entered for consumption, 1928 and 1929—Continued

Items	1928		1929	
	Pounds	*Value*	*Pounds*	*Value*
Nonedible fishery products—Continued.				
Shells and buttons of pearl or shell—				
Shells, not manufactured:				
Green snail shell...pounds..	104, 675	$12, 698	189, 601	$36, 263
Mother-of-pearl...do....	6, 516, 745	1, 882, 556	8, 924, 262	2, 574, 523
All others...do....	2, 280, 987	257, 313	8, 579, 352	306, 490
Shells, manufactured...	....	72, 558	....	60, 433
Shell pearl buttons:				
Fresh water...gross..	3, 015	1, 344	1, 765	1, 057
Ocean or trochus...do....	118, 758	45, 375	133, 902	52, 868
Buttons, blanks, not turned, faced, or drilled...gross..	3, 072	1, 640	....	....
Buttons (from Philippine Islands) ...gross..	922, 219	438, 100	670, 775	365, 694
Total...	....	2, 711, 584	....	3, 397, 328
Sponges...pounds..	933, 232	1, 124, 297	856, 515	1, 091, 129
Agar-agar...do....	397, 368	285, 659	502, 626	405, 728
Ambergris...do....	160	46, 297	387	125, 908
Cuttlefish bone...do....	287, 403	35, 870	361, 707	46, 920
Fish for purposes other than human consumption...pounds..	3, 678, 684	61, 633	....	62, 560
Fish skins, raw or salted...do....	745, 880	29, 440	2, 984, 094	1, 434, 489
Fish sounds, crude, dried, or salted for preservation only...pounds..	39, 705	6, 507	134, 918	17, 683
Sea grass, eelgrass, and seaweed, dyed or manufactured...	....	44, 636	....	38, 350
Whalebone, unmanufactured...pounds..	350	456	3, 154	1, 878
Whalebone, manufactures of...do....	1	30	Not reported.	1, 682
Total...	....	510, 528	....	2, 135, 198
Total nonedible fishery products...	....	21, 463, 859	....	27, 813, 028
Grand total...	....	58, 854, 938	....	66, 565, 599

Imports for consumption and domestic exports of fishery products, 1929, and ratio comparisons

Items	Imports		Exports		Ratio of imports to exports	
	Pounds	*Value*	*Pounds*	*Value*	*Quantity*	*Value*
Edible fishery products:						
Fish, fresh, frozen, or packed in ice...	174, 143, 321	$12, 045, 360	8, 813, 815	$1, 103, 535	198:10	109:10
Fish, salted, dried, smoked, or pickled...	114, 496, 765	9, 632, 491	13, 602, 534	2, 050, 975	84:10	47:10
Fish, canned or packed in oil..	36, 524, 923	6, 852, 435	174, 284, 158	17, 722, 989	10:48	10:26
Shellfish, canned or fresh...	31, 125, 561	9, 363, 617	14, 222, 158	2, 412, 681	22:10	39:10
Other fish products, roe, caviar, etc...	818, 522	858, 668	2, 386, 079	210, 434	10:29	41:10
Total...	357, 109, 092	38, 752, 571	213, 308, 744	23, 500, 614	17:10	16:10
Nonedible fishery products:						
Marine-animal oils [1]...	139, 226, 708	9, 371, 888	1, 120, 022	94, 708	1, 243:10	990:10
All other...	....	18, 441, 140	....	234, 848	....	785:10
Total...	....	27, 813, 028	....	329, 556	....	844:10
Grand total...	....	66, 565, 599	....	23, 830, 170	....	28:10

[1] Gallon of marine-animal oil calculated at 7.5 pounds.

FISHERIES OF THE NEW ENGLAND STATES

During 1928 the value of the catch of fishery products in the New England States (Maine, New Hampshire, Massachusetts, Rhode sland, and Connecticut) exceeded that in any year for which there re records. This was due mainly to the increased production of addock. These fisheries gave employment to 16,659 fishermen or

11 per cent more than in 1924, the most recent year for which records are available prior to 1928. Of the total number of fishermen employed during 1928, 5,649 regular fishermen were engaged on vessels, and 9,233 regular and 1,777 casual fishermen were employed in the shore and boat fisheries. Their catch amounted to 603,598,050 pounds, valued at $25,619,904. This is an increase of 48 per cent in the catch and 36 per cent in the value of the catch as compared with the quantity and its value for 1924. Of the total catch in 1928, 561,103,967 pounds, valued at $18,103,467, were fish, and 42,494,083 pounds, valued at $7,516,437, were shellfish and miscellaneous products.

Based on the value to the fishermen, haddock with a production of 237,707,820 pounds, valued at $7,047,591, was the most important product. Lobsters were second with a production of 11,603,979 pounds, valued at $3,413,881. Other products of importance were cod, 90,335,557 pounds, valued at $2,955,603; flounders, 50,274,092 pounds, valued at $2,259,077; mackerel, 42,722,006 pounds, valued at $2,185,462; oysters, 9,373,249 pounds of meats, valued at $1,883,663; and all varieties of clams, 7,750,280 pounds of meats, valued at $1,220,086. Other products were valued individually at less than $1,000,000.

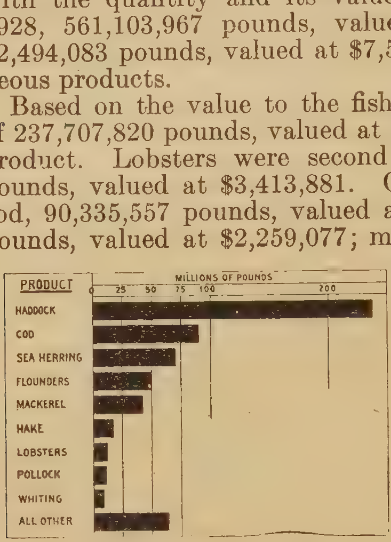

FIGURE 14.—Yield of principal fishery products in the New England States, 1928

The industries related to the fisheries of the New England States gave employment to 7,885 persons, of whom 382 were engaged in transporting fishery products, 3,057 were in the wholesale trade and received $4,639,058 in salaries and wages, and 4,446 were in the prepared-products and by-products trade and received $3,657,086 in salaries and wages. There were 302 establishments in the wholesale fish trade hand-products and 154 establishments were in the prepared-products and by-products trade. The latter manufactured products—mostly canned sardines, clams, and other canned fishery products—to the value of $16,934,487. In addition, individual fishermen in the New England States prepared fishery products valued at $162,154. Most of these products were salt fish prepared from the various species of ground fish.

Fisheries of the New England States, 1928

SUMMARY OF CATCH

Products	Maine		New Hampshire		Massachusetts	
	Pounds	*Value*	*Pounds*	*Value*	*Pounds*	*Value*
Fish	111, 998, 075	$1, 872, 538	109, 000	$4, 750	363, 406, 942	$12, 921, 051
Shellfish, etc	11, 328, 080	2, 358, 553	130, 099	40, 785	16, 761, 417	2, 727, 725
Total	123, 326, 155	4, 231, 091	239, 099	45, 535	380, 168, 359	15, 648, 776

Products	Rhode Island		Connecticut		Total	
	Pounds	*Value*	*Pounds*	*Value*	*Pounds*	*Value*
Fish	19, 431, 714	$1, 053, 364	66, 158, 236	$2, 251, 764	561, 103, 967	$18, 103, 467
Shellfish, etc	8, 234, 439	1, 344, 527	6, 040, 048	1, 044, 847	42, 494, 083	7, 516, 437
Total	27, 666, 153	2, 397, 891	72, 198, 284	6, 296, 311	603, 598, 050	25, 619, 904

Fisheries of the New England States, 1928—Continued

OPERATING UNITS: BY STATES

Items	Maine	New Hampshire	Massachusetts	Rhode Island	Connecticut	Total
Fishermen:	*Number*	*Number*	*Number*	*Number*	*Number*	*Number*
On vessels	478		4, 152	263	756	5, 649
On boats and shore—						
Regular	4, 315	41	3, 275	731	871	9, 233
Casual	803	12	324	265	373	1, 777
Total	5, 596	53	7, 751	1, 259	2, 000	16, 659
Vessels:						
Steam			22	10	25	57
Net tonnage			3, 405	285	4, 345	8, 035
Motor	84		397	73	91	645
Net tonnage	1, 066		12, 775	760	1, 185	15, 786
Sail			1		5	6
Net tonnage			152		36	188
Total vessels	84		420	83	121	708
Total net tonnage	1, 066		16, 332	1, 045	5, 566	24, 009
Boats:						
Motor	2, 788	38	1, 957	526	532	5, 841
Other	2, 906	38	1, 859	468	506	5, 777
Accessory boats	288		873	27	10	1, 198
Apparatus:						
Purse seines—						
Menhaden				1	2	3
Yards				400	930	1, 330
Other	62		106	8	13	189
Yards	16, 651		52, 715	1, 000	850	71, 216
Haul seines, common	146		10	15	85	256
Yards	29, 400		520	1, 485	4, 017	35, 422
Gill nets—						
Drift	248		7, 677	246	41	8, 212
Square yards	84, 432		2, 059, 774	96, 422	99, 500	2, 340, 128
Stake	13				26	39
Square yards	1, 512				3, 300	4, 812
Anchor	1, 927		902	8		2, 837
Square yards	514, 760		252, 160	1, 200		768, 120
Runaround				1		1
Square yards				12, 000		12, 000
Lines—						
Trawl	40, 906	100	49, 932	470	11, 100	102, 508
Hooks	2, 061, 218	5, 000	2, 453, 480	27, 440	555, 000	5, 102, 138
Hand	4, 198	48	731	224	189	5, 390
Hooks	5, 184	192	1, 646	232	374	7, 628
Pound nets	1		121	64	25	211
Floating traps	35		25	58		118
Weirs	301				5	306
Fyke nets	122		92	63	186	463
Dip nets	73		45	13	48	179
Bag nets	139					139
Pocket nets	7					7
Otter trawls	41		379	77	178	675
Yards at mouth	833		10, 288	2, 021	2, 020	15, 162
Box traps	4				2	6
Pots—						
Crab	74		2, 315		60	2, 449
Eel	343		1, 678	1, 565	1, 687	5, 273
Lobster	210, 832	2, 380	61, 687	36, 925	22, 750	334, 574
Periwinkle and cockle			400	300		700
Harpoons, swordfish	79		108	47	18	252
Spears	33		86	38	45	202
Dredges—						
Oyster			56	35	216	307
Yards at mouth			68	50	235	353
Scallop	107		3, 230	290		3, 627
Yards at mouth	167		3, 521	238		3, 926
Clam			211			211
Yards at mouth			220			220
Tongs			125	209	65	399
Rakes			498	93	81	672
Forks	1, 040		22			1, 062
Hoes	281		482	3		766
Grapple irons, kelp	1					1

Fisheries of the New England States, 1928—Continued

CATCH: BY STATES

Species	Maine		New Hampshire		Massachusetts		Rhode Island		Connecticut		Total	
FISH	*Pounds*	*Value*	*Pounds*	*Value*	*Pounds*	*Value*	*Pounds*	*Value*	*Pounds*	*Value*	*Pounds*	*Value*
Alewives	2, 131, 916	$19, 001			2, 247, 972	$29, 298	161, 410	$3, 355	15, 680	$300	4, 556, 978	$51, 954
Bluefish	140	19			14, 516	1, 699	35, 378	5, 901	5, 250	1, 534	55, 284	9, 153
Bonito	845	36			18, 465	1, 955	48, 950	4, 884			68. 260	6, 875
Butterfish	25, 339	2, 864			580, 397	79, 997	928, 943	108, 472	13, 884	1, 524	1, 548, 563	192. 857
Carp									14, 395	1, 749	14, 395	1, 749
Catfish and bullheads									1, 200	77	1, 200	77
Cod	16, 186, 739	434, 963	25, 000	$750	67. 665, 689	2, 268, 375	2, 256, 989	118, 989	4, 201, 140	132. 526	90. 335, 557	2, 955, 603
Cunners	10, 000	500			30	2	76, 255	2, 198			86, 285	2, 700
Cusk	959, 759	21, 704	10, 000	200	2, 185, 262	51, 569			75, 024	18, 000	3, 230, 045	91, 473
Eels	141, 650	12, 739			356, 149	42, 305	253, 800	27, 859	93, 766	13, 555	845, 365	96, 458
Flounders	1, 175, 313	61, 543	4, 000	200	36, 685, 927	1, 640, 674	4, 400, 942	199, 783	8, 007, 910	356, 877	50, 274, 092	2, 259, 077
Frigate mackerel							5, 336	349			5, 336	349
Goosefish							43, 130	907			43, 130	907
Grayfish	100, 000	2, 000			68, 210	818	27, 599	294	10, 500	200	206, 309	3, 312
Haddock	12, 203, 984	337, 125	50. 000	2, 000	177, 577, 775	5. 230, 961	576, 787	17, 194	47, 299, 274	1, 460, 311	237, 707, 820	7, 047, 591
Hake	7, 681, 461	106, 890	10, 000	200	9, 321, 072	204, 669	112, 477	3, 717	381, 200	6, 352	17, 506, 210	321, 828
Halibut	191, 341	30, 825			4, 060, 713	606, 150	376	34	4, 080	6, 112	4, 256, 510	643, 121
Herring, sea	64, 685, 474	397, 777			5, 645, 538	72, 509	221, 440	4, 261	2, 800	70	70, 555, 252	474, 617
Hickory shad					25	2	9, 590	557	200	30	9, 815	589
King whiting					98	14	2, 955	156			3, 053	170
Mackerel	1, 595, 816	71, 921			37, 161, 091	1, 862, 939	2, 696, 199	158, 744	1, 268, 900	91, 858	42, 722, 006	2, 185, 462
Menhaden					4, 356	48	1, 726, 650	17, 267	3, 443, 900	55, 840	5, 174, 906	73, 155
Minnows									17, 707	5, 214	17, 707	5, 214
Mummichog									6, 610	1, 123	6, 610	1, 123
Pike									10	2	10	2
Pollock	2, 876, 481	37, 943	5, 000	150	7, 700, 726	168, 783	166, 751	8, 517	290, 425	8, 168	11, 039, 383	223, 561
Rosefish	2, 420	47			123, 388	1, 883					125, 808	1, 930
Salmon	14, 747	5, 288			16, 050	710	92	28	12	6	30, 901	6, 032
Sand launce					312, 680	3, 327					312, 680	3, 327
Scup					855, 272	34, 660	2, 003, 366	156, 765	200	4	2, 858, 838	191, 429
Sea bass					154, 281	15, 549	72, 050	7, 202	2, 170	441	228, 501	23, 192
Sea robin					350	3	468, 147	4, 288	13. 600	136	482, 097	4, 427
Shad	110, 149	7, 755			30, 911	2, 322	5, 681	453	199, 063	27, 413	345, 804	37, 943
Sharks	45, 438	619			81, 918	7, 905	16. 800	163	1, 000	10	145, 156	8, 697
Skates	75	11			32, 918	620	620, 830	9, 635	404, 500	4, 193	1, 058, 323	14, 459
Skipper or "billfish"					12, 850	954	300	105			13, 150	1, 059
Smelt	832, 216	176, 189	5, 000	1, 250	32, 356	4, 423	16, 718	3, 481	16, 791	2, 226	903, 081	187, 569
Spot							5, 120	343			5, 120	343
Squeteagues					3, 426	498	70, 132	4, 610	40, 585	10. 484	114, 143	15, 592
Striped bass					8, 357	1, 511	44, 347	6, 880	3, 817	956	56, 521	9, 347
Sturgeon	652	87			2, 838	567	125	19	202	26	3, 817	699
Suckers	62, 560	6, 256					32	3	63, 231	4, 605	125, 823	10, 864

Tautog					151,931	12,980	153,868	11,002	89,463	8,712	395,262	32,694
Tomcod	21,204	841			585	29	5,380	169			27,169	1,039
Tuna or horse mackerel	207,270	9,313			35,642	3,445	42,818	3,959			285,730	16,717
Whitebait							300	105			300	105
White perch					10,400	1,560	1,946	270	50	4	12,396	1,834
Whiting	3,510	34			6,995,830	70,967	1,377,216	21,013	1,200	12	8,377,756	92,026
Wolffish	38,305	643			520,813	13,350	165	5			559,283	13,998
Yellow perch	200	20			50	5			55	5	305	30
Total	111,998,075	1,872,538	109,000	4,750	363,406,942	12,921,051	19,431,714	1,053,364	66,158,236	2,251,764	561,103,967	18,103,467
SHELLFISH, ETC.												
Crabs, hard	158,900	4,698			3,139,119	71,567	274,667	8,868	180,750	6,284	3,753,436	91,417
Crabs, soft									1,065	400	1,065	400
Lobsters	7,100,332	2,013,451	130,099	40,785	2,042,331	761,561	1,637,659	357,103	693,558	240,981	11,603,979	3,413,881
Shrimp					1,200	900					1,200	900
Squid	27,090	393			5,540,424	117,522	2,310,604	37,122	49,400	1,666	7,927,518	156,703
Clams, cockle	3,000	180			6,870	2,917					9,870	3,097
Clams, hard, public					1,661,416	524,999	539,776	199,610	29,808	11,188	2,231,000	735,797
Clams, hard, private									1,200	450	1,200	450
Clams, razor					38,400	8,000					38,400	8,000
Clams, soft, public	3,620,580	228,756			1,797,090	233,237	13,830	2,966	38,310	7,783	5,469,810	472,742
Mussels							130,000	1,300			130,000	1,300
Oysters, market, public							1,400	400	14,070	4,080	15,470	4,480
Oysters, market, private					753,949	365,504	2,922,997	656,459	845,964	199,174	4,522,910	1,221,137
Oysters, seed, public									404,649	57,807	404,649	57,807
Oysters, seed, private					324,730	44,428	323,946	40,777	3,781,274	515,034	4,429,950	600,239
Periwinkles	2,000	500			10,250	1,600	6,720	1,344			18,970	3,444
Scallops, bay					1,235,304	548,348	42,870	28,588			1,278,174	576,936
Scallops, sea	326,178	110,125			119,124	42,580	29,970	9,990			475,272	162,695
Irish moss					91,210	4,562					91,210	4,562
Kelp	90,000	450									90,000	450
Total	11,328,080	2,358,553	130,099	40,785	16,761,417	2,727,725	8,234,439	1,344,527	6,040,048	1,044,847	42,494,083	7,516,437
Grand total	123,326,155	4,231,091	239,099	45,535	380,168,359	15,648.776	27,666,153	2.397,891	72,198,284	3,296,611	603,598,050	25,619,904

Fisheries of the New England States, 1928—Continued

PRODUCTION OF CERTAIN SHELLFISH SHOWN IN NUMBERS AND BUSHELS

Products	Maine		Massachusetts		Rhode Island		Connecticut		Total	
	Quantity	*Value*	*Quantity*	*Value*	*Quantity*	*Value*	*Quantity*	*Value*	*Quantity*	*Value*
Crabs, hard ..number	476, 700	$4, 698	9, 417, 357	$71, 567	824, 001	$8, 868	542, 250	$6, 284	11, 260, 308	$91, 417
Crabs, soft ....do	-------	-------	-------	-------	-------	-------	3, 195	400	3, 195	400
Clams, cockle..bushels	300	180	687	2, 917	-------	-------	-------	-------	987	3, 097
Clams, hard, public ....bushels	-------	-------	207, 677	524, 999	67, 472	199, 610	3, 726	11, 188	278, 875	735, 797
Clams, hard, private ....bushels	-------	-------	-------	-------	-------	-------	150	450	150	450
Clams, razor......do	-------	-------	3, 840	8, 000	-------	-------	-------	-------	3, 840	8, 000
Clams, soft, public ....bushels	362, 058	228, 756	179, 709	233, 237	1, 383	2, 966	3, 831	7, 733	546, 981	472, 742
Mussels..........do	-------	-------	-------	-------	13, 000	1, 300	-------	-------	13, 000	1, 300
Oysters, market, public ....bushels	-------	-------	-------	-------	200	400	2, 010	4, 080	2, 210	4, 480
Oysters, market, private........bushels	-------	-------	107, 707	365, 504	417, 571	656, 459	120, 852	199, 174	646, 130	1, 221, 137
Oysters, seed, public ....bushels	-------	-------	-------	-------	-------	-------	57, 807	57, 807	57, 807	57, 807
Oysters, seed, private ....bushels	-------	-------	46, 390	44, 428	46, 278	40, 777	540, 182	515, 034	632, 850	600, 239
Periwinkles......do	200	500	1, 025	1, 600	672	1, 344	-------	-------	1, 897	3, 444
Scallops, bay....do	-------	-------	205, 884	548, 348	7, 145	28, 588	-------	-------	213, 029	576, 936
Scallops, sea.....do	54, 363	110, 125	19, 854	42, 580	4, 995	9, 990	-------	-------	79, 212	162, 695

Industries related to the fisheries of the New England States, 1928

Items	Maine [1]	Massachusetts	Rhode Island	Connecticut	Total
Transporting:	*Number*	*Number*	*Number*	*Number*	*Number*
Persons engaged	263	78	34	7	382
Vessels—					
Steam	3	----------	1	----------	4
Net tonnage	87	----------	49	----------	136
Motor	128	18	10	5	161
Net tonnage	1, 291	476	148	75	1, 990
Sail	----------	3	----------	----------	3
Net tonnage	----------	271	----------	----------	271
Total vessels	131	21	11	5	168
Total net tonnage	78	747	197	75	2, 397
Wholesale trade:					
Establishments	103	150	31	18	302
Persons engaged	427	2, 104	313	213	3, 057
Salaries and wages paid	$432, 493	$3, 574, 504	$291, 648	$340, 413	$4, 639, 058
Prepared products and by-products industries:					
Establishments	119	30	2	3	154
Persons engaged	3, 019	1, 080	68	279	4, 446
Salaries and wages paid	$1, 704, 135	$1, 571, 352	$50, 279	$331, 320	$3, 657, 086
Products	$10, 291, 561	$6, 014, 353	$348, 299	$280, 274	$16, 934, 487
Products prepared by the fishermen	$21, 030	$141, 124	----------	----------	$162, 154

[1] Includes two wholesale firms in Rockingham County, N. H.

SALTED AND SMOKED FISH INDUSTRIES

The salted and smoked fish industries of the New England States are conducted principally in Maine and Massachusetts.

In the salted fish industry in 1928 there were 50 plants, 16 of which were in Massachusetts, 33 in Maine, and 1 in Rhode Island. The total production of salted fish in New England during 1928 amounted to 23,561,768 pounds, valued at $2,367,015. This represents a decrease of 25 per cent in the production and 21 per cent in the value as compared with the production and its value for 1924 when the most recent comparable figures were obtained. The most important fish salted was cod, the production of which amounted to 11,755,900 pounds, valued at $1,572,507. Haddock was next in importance, the output of which amounted to 3,203,780 pounds, valued at $262,676.

Fish were smoked in 64 plants in New England during 1928, 44 of which were in Maine, 17 in Massachusetts, 2 in Rhode Island, and 1 in New Hampshire. The production of smoked fish in New England during 1928 amounted to 11,627,452 pounds, valued at $1,272,509, which is an increase of 12 per cent in quantity and 25 per cent in value as compared with the quantity and the value of the production in 1924. By far the most important smoked product of New England is herring which amounted to 7,470,283 pounds, valued at $689,041. Finnan haddie was next in importance accounting for 2,316,346 pounds, valued at $213,281.

Production of salted and smoked fish in New England, 1928

Products	Maine [1]		Massachusetts [2]		Total	
	Pounds	*Value*	*Pounds*	*Value*	*Pounds*	*Value*
Salted:						
Alewives	437, 800	$14, 514			437, 800	$14, 514
Cod	3, 727, 546	249, 247	[2] 8, 028, 354	$1, 323, 260	11, 755, 900	1, 572, 507
Cusk	167, 133	7, 343	314, 255	22, 658	481, 388	30, 001
Haddock	322, 668	15, 809	2, 881, 112	246, 867	3, 203, 780	262, 676
Hake	1, 560, 502	64, 523	959, 045	60, 180	2, 519, 547	124, 703
Herring			363, 200	18, 760	363, 200	18, 760
Mackerel	62, 500	5, 700	1, 529, 000	127, 215	1, 591, 500	132, 915
Pollock	956, 501	41, 874	2, 157, 952	161, 284	3, 114, 453	203, 158
Miscellaneous [3]	28, 500	1, 187	65, 700	6, 594	94, 200	7, 781
Total	7, 263, 150	400, 197	16, 298, 618	1, 966, 818	23, 561, 768	2, 367, 015
Smoked:						
Alewives	[4] 145, 770	[4] 7, 223			145, 770	7, 223
Finnan haddie	[1] 615, 800	73, 652	[2] 1, 700, 546	139, 629	2, 316, 346	213, 281
Halibut			20, 656	6, 281	20, 656	6, 281
Herring—						
Bloaters	1, 000, 799	51, 357	2, 870, 412	247, 133	3, 871, 211	298, 490
Lengthwise	125, 490	8, 347			125, 490	8, 347
Medium scale	352, 856	28, 036	192, 051	38, 896	544, 907	66, 932
Boneless	2, 797, 200	292, 807			2, 797, 200	292, 807
Kippered			131, 475	22, 465	131, 475	22, 465
Salmon			197, 272	92, 463	197, 272	92, 463
Fillets—						
Cod and cusk			[5] 236, 000	[5] 29, 120	236, 000	29, 120
Haddock			[6] 634, 147	[6] 109, 493	634, 147	109, 493
Miscellaneous	6, 000	900	600, 978	124, 707	606, 978	125, 607
Total	5, 043, 915	462, 322	6, 583, 537	810, 187	11, 627, 452	1, 272, 509

[1] Includes a small quantity of finnan haddie smoked in New Hampshire.
[2] A few cod salted and a small amount of finnan haddie smoked in Rhode Island have been included under Massachusetts.
[3] Includes pickled herring, cheeks, sounds, and tongues.
[4] Includes the production of 2 firms in Massachusetts.
[5] Includes the production of 1 firm in Maine.
[6] Includes the production of 2 firms in Maine.

MAINE

In 1928 Maine ranked second among the New England States in the importance of its fisheries, employing 34 per cent of the total number of fishermen and accounting for 20 per cent of the total catch. The fisheries and industries related to the fisheries, including the two wholesale establishments in New Hampshire, employed 9,305 persons. This is 22 per cent less than the number employed in these fisheries during 1924, which is the most recent year for which comparable data are available. Of the total number of persons, 5,596 were fishermen, 263 were employed on transporting vessels, 427 in the wholesale trade, and 3,019 in the prepared-products and by-products trade.

The total catch amounted to 123,326,155 pounds valued at $4,231,091. This is an increase of 6 per cent in the catch and 2 per cent in the value of the catch as compared with the catch and its value for 1924. Of the total value of the catch, that for lobsters accounted for 48 per cent; cod, 10 per cent; herring, 9 per cent; haddock, 8 per cent; and soft clams, 5 per cent. Of the total production that of herring accounted for 52 per cent; cod, 13 per cent; haddock, 10 per cent; lobsters, 6 per cent; and soft clams, 3 per cent.

OPERATING UNITS BY GEAR

The catch of fishery products along the coast and in the coastal rivers of Maine during 1928 was taken by 5,596 fishermen who used 84 motor vessels, 5,624 motor and other small boats, and 20 major types of gear. The motor vessels had a combined capacity of 1,066 net tons.

The fisheries accounting for the greatest number of persons were the lobster-pot fishery, employing 2,756 fishermen and the hand-line fishery employing 1,162 fishermen.

CATCH BY GEAR

Five types of gear accounted for 67 per cent of the fish taken in the fisheries of Maine during 1928. Listed in order of their importance they were—lines which accounted for 26 per cent of the catch; haul seines, 18 per cent; purse seines, 11 per cent; and gill nets and pots, each, 6 per cent. The catch by lines consisted principally of haddock, cod, hake, cusk, and pollock; that by haul seines was almost entirely herring; that by purse seines principally herring and pollock; that by gill nets chiefly cod, pollock, and haddock; and that by pots principally lobsters.

OPERATING UNITS BY COUNTIES

Hancock County was foremost in the number of persons fishing, accounting for 23 per cent of the total; Washington County followed with 22 per cent. Other counties employing a considerable number of fishermen listed in the order of their importance in this respect were: Cumberland, Knox, and Lincoln. Cumberland County accounted for 40 per cent of the total number of fishing vessels and Knox County 27 per cent. Washington County led in the number of motor and other small fishing boats accounting for 26 per cent of the total. Hancock followed with 20 per cent.

CATCH BY COUNTIES

Fishing was prosecuted in the marine waters of 10 counties in Maine during 1928. Ranked according to value, the fisheries of Cumberland County were most important, accounting for 26 per cent of the total catch and 28 per cent of the total value of the catch. Knox County was next in value of the catch accounting for 13 per cent of the quantity and 20 per cent of the total value. Other important counties listed in order of their importance with respect to value of the catch were Hancock, Washington, and Lincoln.

Fisheries of Maine, 1928

OPERATING UNITS: BY GEAR

Items	Purse seines, market fish	Haul seines, common	Gill nets			Lines		Pound nets	Floating traps	Weirs
			Drift	Stake	Anchor	Trawl	Hand			
	Number	*Number*	*Number*	*Number*	*Number*	*Number*	*Number*	*Number*	*Number*	*Number*
Fishermen:										
On vessels	130	53	10	------	62	224	41	------	------	------
On boats and shore—										
Regular	119	352	25	1	188	878	587	2	61	397
Casual	------	20	2	4	29	2	534	------	------	67
Total	249	425	37	5	279	1, 104	1, 162	2	61	464
Vessels:										
Motor—										
5 to 10 tons	19	7	------	------	7	10	10	------	------	------
11 to 20 tons	6	3	1	------	5	8	1	------	------	------
21 to 30 tons	1	------	------	------	------	2	------	------	------	------
31 to 40 tons	------	------	------	------	------	2	------	------	------	------
41 to 50 tons	------	1	------	------	------	1	------	------	------	------
51 to 60 tons	------	------	------	------	------	2	------	------	------	------
Total vessels	26	11	1	------	12	25	11	------	------	------
Total net tonnage	250	145	18	------	118	486	84	------	------	------
Boats:										
Motor	41	105	12	------	96	698	368	1	22	166
Other	63	173	5	5	53	603	29	2	56	495
Apparatus:										
Number	62	146	248	13	1, 927	40, 906	4, 198	1	35	301
Length, yards	16, 651	29, 400	------	------	------	------	------	------	------	------
Square yards	------	------	84, 432	1, 512	514, 760	------	------	------	------	------
Hooks, baits, or snoods	------	------	------	------	------	2, 061, 218	5, 184	------	------	------

Items	Fyke nets	Dip nets	Bag nets	Pocket nets	Otter trawls	Box traps	Pots		
							Crab	Eel	Lobster
	Number	*Number*	*Number*	*Number*	*Number*	*Number*	*Number*	*Number*	*Number*
Fishermen:									
On vessels	------	------	------	------	64	------	------	------	19
On boats and shore—									
Regular	23	1	32	7	56	3	4	14	2, 731
Casual	1	63	58	------	------	1	------	1	6
Total	24	64	90	7	120	4	4	15	2, 756
Vessels:									
Motor—									
5 to 10 tons	------	------	------	------	6	------	------	------	8
11 to 20 tons	------	------	------	------	6	------	------	------	------
Total vessels	------	------	------	------	12	------	------	------	8
Total net tonnage	------	------	------	------	139	------	------	------	53
Boats:									
Motor	5	1	------	------	29	------	------	9	2, 380
Other	24	1	22	------	8	------	4	15	1, 530
Apparatus:									
Number	122	73	139	7	41	4	74	343	210, 832
Yards at mouth	------	------	------	------	833	------	------	------	------

Fisheries of Maine, 1928—Continued

OPERATING UNITS: BY GEAR—Continued

Items	Harpoons, swordfish	Spears	Scallop dredges	Forks	Hoes	Grapple irons, kelp	By hand	Total exclusive of duplication
Fishermen:	*Number*	*Number*	*Number*	*Number*	*Number*	*Number*	*Number*	*Number*
On vessels	165		17					478
On boats and shore—								
Regular	116	12	140	1, 014	249	1	6	4, 315
Casual		21	1	40	32			803
Total	281	33	158	1, 054	281	1	6	5, 596
Vessels:								
Motor—								
5 to 10 tons	2		4					53
11 to 20 tons	7		2					22
21 to 30 tons	2							3
31 to 40 tons	2							2
41 to 50 tons								2
51 to 60 tons	2							2
Total vessels	15		6					84
Total net tonnage	366		59					1, 066
Boats:								
Motor	69		93	87		1		2, 788
Other	10		1	657	98			2, 906
Apparatus:								
Number	79	33	107	1, 040	281	1		
Yards at mouth			167					

CATCH: BY GEAR

Species	Purse seines, market fish		Haul seines, common		Gill nets					
					Drift		Stake		Anchor	
	Pounds	*Value*	*Pounds*	*Value*	*Pounds*	*Value*	*Pounds*	*Value*	*Pounds*	*Value*
Alewives	572, 400	$8, 604			4, 000	$200			39, 041	$904
Bonito									385	15
Butterfish	2, 131	357								
Cod									4, 613, 136	145, 837
Cusk									7, 753	167
Flounders									18, 960	622
Haddock									874, 009	19, 851
Hake									343, 905	5, 907
Halibut									435	56
Herring, sea	11, 493, 030	81, 549	21, 648, 870	$122, 098						
Mackerel	792, 580	36, 325			170, 358	7, 482				
Pollock	1, 070, 000	9, 835							992, 390	16, 936
Rosefish									20	
Salmon							1, 730	$692	887	337
Shad	83, 837	6, 766			248	33			239	19
Sharks									37, 147	472
Skates									75	11
Smelt	52, 530	10, 546	329, 426	57, 629					52, 350	12, 355
Sturgeon									555	73
Tomcod	2, 260	452	9, 944	299						
Tuna									688	38
Wolffish									2, 427	41
Total	14, 068, 768	154, 434	21, 988, 240	180, 026	174, 606	7, 715	1, 730	692	6, 984, 402	203, 641

Fisheries of Maine, 1928—Continued

CATCH: BY GEAR—Continued

Species	Lines				Pound nets		Floating traps	
	Trawl		Hand					
	Pounds	*Value*	*Pounds*	*Value*	*Pounds*	*Value*	*Pounds*	*Value*
Alewives							600	$8
Bluefish							140	19
Bonito	460	$21						
Butterfish					1,200	$120	20,808	2,267
Cod	9,227,588	234,123	2,281,612	$53,378			125	4
Cusk	943,383	21,423	7,680	88				
Flounders	73,265	2,180	4,205	106			29,112	632
Grayfish	100,000	2,000						
Haddock	10,556,008	301,172	619,260	12,414				
Hake	7,162,541	98,614	127,889	1,585				
Halibut	159,785	26,057	31,071	4,706				
Herring, sea					700,000	4,000	169,814	914
Mackerel					15,000	300	609,978	27,372
Pollock	457,746	6,754	354,591	4,393				
Rosefish	1,390	26						
Salmon					100	30	1,590	394
Shad							25,425	884
Sharks	1,121	19					7,170	128
Smelt			240,750	60,762	12,000	2,400	460	92
Whiting							3,510	34
Wolffish	32,313	551	100	2				
Lobsters	300	120						
Squid							27,090	393
Total	28,715,900	693,060	3,667,158	137,434	728,300	6,850	895,822	33,141

Species	Weirs		Fyke nets		Dip nets		Bag nets		Pocket nets	
	Pounds	*Value*	*Pounds*	*Value*	*Pounds*	*Value*	*Pounds*	*Value*	*Pounds*	*Value*
Alewives	647,250	$5,180			868,625	$4,105				
Butterfish	1,200	120								
Cunner					10,000	500				
Eels	20,000	1,600	2,050	$205						
Herring, sea	30,673,760	189,216								
Mackerel	7,900	442								
Salmon	10,440	3,835								
Shad	400	53								
Smelt	15,450	3,555			1,000	250	126,250	$28,100	2,000	$500
Suckers			62,560	6,256						
Tomcod							9,000	90		
Yellow perch			200	20						
Total	31,376,400	204,001	64,810	6,481	879,625	4,855	135,250	28,190	2,000	500

Species	Otter trawls		Box traps		Pots					
					Crab		Eel		Lobster	
	Pounds	*Value*	*Pounds*	*Value*	*Pounds*	*Value*	*Pounds*	*Value*	*Pounds*	*Value*
Cod	64,278	$1,621								
Cusk	943	26								
Eels			15,000	$2,304			81,400	$6,310	11,200	$1,120
Flounders	1,049,771	58,003								
Haddock	154,707	3,688								
Hake	47,126	784								
Halibut	50	6								
Pollock	1,754	25								
Rosefish	1,010	21								
Sturgeon	97	14								
Wolffish	3,465	49								
Crabs, hard					25,000	$500			133,900	4,198
Lobsters	101	25							7,099,931	2,013,306
Scallops, sea	84	30								
Total	1,323,386	64,292	15,000	2,304	25,000	500	81,400	6,310	7,245,031	2,018,624

Species	Harpoons, swordfish		Spears		Scallop dredges		Forks	
	Pounds	*Value*	*Pounds*	*Value*	*Pounds*	*Value*	*Pounds*	*Value*
Eels			12,000	$1,200				
Swordfish	693,071	$127,585						
Tuna	206,582	9,275						
Clams, soft, public							2,805,500	$148,345
Scallops, sea					326,094	$110,095		
Total	899,653	136,860	12,000	1,200	326,094	110,095	2,805,500	148,345

Fisheries of Maine, 1928—Continued

CATCH: BY GEAR—Continued

Species	Hoes		Grapple irons		By hand	
	Pounds	*Value*	*Pounds*	*Value*	*Pounds*	*Value*
Clams, cockle					3,000	$180
Clams, soft, public	815,080	$80,411				
Periwinkles					2,000	500
Kelp			90,000	$450		
Total	815,080	80,411	90,000	450	5,000	680

OPERATING UNITS: BY COUNTIES

Items	Cumberland	Hancock	Kennebec	Knox	Lincoln	Penobscot	Sagadahoc	Waldo	Washington	York
Fishermen:	*Number*	*Number*	*Number*	*Number*	*Number*	*Number*	*Number*	*Number*	*Number*	*Number*
On vessels	271	22		78	70			4	26	7
On boats and shore—										
Regular	776	898	5	612	455	4	200	25	1,161	179
Casual		352		78	140	4	106	87	36	
Total	1,047	1,272	5	768	665	8	306	116	1,223	186
Vessels, motor:										
5 to 10 tons	17	4		18	10			1	2	1
11 to 20 tons	10	1		5	3				2	1
21 to 30 tons	2								1	
31 to 40 tons	2									
41 to 50 tons	1								1	
51 to 60 tons	2									
Total vessels	34	5		23	13			1	6	2
Total net tonnage	577	43		195	118			7	106	20
Boats:										
Motor	540	566	4	488	303	1	86	14	646	140
Other	452	585	5	420	306	6	117	60	841	114
Apparatus:										
Purse seines, market fish	22	12		8	15			1	2	2
Yards	5,150	2,317		2,150	4,624			1,000	750	660
Haul seines, common	85	9		20	15		5		8	4
Yards	19,160	810		2,040	2,780		780		3,030	800
Gill nets—										
Drift	66	150			4					28
Square yards	7,392	67,200			2,000					7,840
Stake		4				9				
Square yards		464				1,048				
Anchor	1,223	90		46	191	47		78	120	132
Square yards	352,836	29,520		11,932	68,450	2,510		6,060	9,132	34,320
Lines—										
Trawl	17,312	8,230		4,060	3,040		4,240	220	1,954	1,850
Hooks	810,700	418,518		224,000	152,000		212,000	11,000	144,000	89,000
Hand	36	1,821		422	1,072		562	50	227	8
Hooks	72	1,972		484	1,112		974	100	454	16
Pound nets	1									
Floating traps	26				3		6			
Weirs	1	89		33	6	2	6	34	130	
Fyke nets			36		30		56			
Dip nets	10	4		10	6		3	10	30	
Bag nets		21				4	2	61	51	
Pocket nets									7	
Otter trawls	23	7		7	1		1			2
Yards at mouth	595	35		118	30		15			40
Box traps		3			1					
Pots—										
Crab					74					
Eel	20	65		20			180	8	50	
Lobster	35,989	47,220		39,675	21,525		3,880		53,040	9,503
Harpoons, swordfish	46	1			3		17			12
Spears		20			12		1			
Dredges, scallop	14	53		25					15	
Yards at mouth	28	76		43					20	
Forks		342		109	160		12	3	414	
Hoes	215						40			26
Grapple iron, kelp				1						

Fisheries of Maine, 1928—Continued

CATCH: BY COUNTIES

Species	Cumberland		Hancock		Kennebec	
	Pounds	*Value*	*Pounds*	*Value*	*Pounds*	*Value*
Alewives	8,041	$84	435,750	$3,285		
Bluefish	140	19				
Bonito	845	36				
Butterfish	19,643	1,972				
Cod	6,529,746	215,539	2,722,366	57,705		
Cunner	10,000	500				
Cusk	697,309	17,733	89,991	1,032		
Eels	6,400	640	34,400	3,494	2,000	$200
Flounders	644,243	23,499	109,850	8,820		
Haddock	6,056,380	202,741	2,092,690	36,126		
Hake	2,755,616	49,753	3,083,991	30,285		
Halibut	66,192	9,889	36,029	6,505		
Herring, sea	10,888,914	60,981	7,072,700	51,648		
Mackerel	552,934	27,513	53,620	2,145		
Pollock	1,205,668	20,301	831,228	8,259		
Rosefish	1,445	27				
Salmon	490	124	6,180	2,234		
Shad	25,664	903				
Sharks	45,338	618				
Smelt	295,681	53,780	139,800	36,722		
Sturgeon	517	67				
Suckers					20,000	2,000
Swordfish	632,685	115,965	60,386	11,620		
Tomcod	12,204	751				
Tuna	110,635	4,463				
Whiting	3,510	34				
Wolffish	26,870	515				
Crabs, hard	85,000	2,975	5,000	500		
Lobsters	1,223,727	305,737	1,575,000	442,520		
Clams, soft, public	523,000	52,300	920,900	46,845		
Squid	12,090	243				
Scallops, sea	11,478	5,729	86,994	30,495		
Total	32,452,405	1,175,431	19,356,875	780,240	22,000	2,200

Species	Knox		Lincoln		Penobscot	
	Pounds	*Value*	*Pounds*	*Value*	*Pounds*	*Value*
Alewives	380,425	$4,508	714,600	$6,796		
Butterfish			3,696	517		
Cod	3,092,580	61,486	1,359,787	28,089		
Cusk	31,350	421	20,919	280		
Eels	1,000	100	7,600	760		
Flounders	271,980	22,027	58,905	3,447		
Grayfish	100,000	2,000				
Haddock	2,088,377	50,293	370,260	7,105		
Hake	825,286	9,507	326,624	4,640		
Halibut	23,062	3,458	8,550	1,280		
Herring, sea	5,596,760	36,708	7,197,780	57,360		
Mackerel	63,050	2,835	606,346	28,647		
Pollock	447,496	4,189	91,927	824		
Rosefish			975	20		
Salmon			1,200	300	1,870	$748
Shad	37,100	829	39,385	5,623		
Sharks	100	1				
Smelt	83,500	13,925	55,800	14,375	10,150	2,030
Sturgeon			57	10		
Suckers			20,000	2,000		
Tuna	303	15	25,000	875		
Wolffish	10,160	103				
Yellow perch			200	20		
Crabs, hard			42,500	1,025		
Lobsters	1,805,850	526,500	742,250	223,275		
Clams, soft, public	316,000	20,710	334,000	20,040		
Squid			15,000	150		
Scallops, sea	221,700	70,900	6	1		
Kelp	90,000	450				
Total	15,486,079	830,965	12,043,367	407,459	12,020	2,778

Fisheries of Maine, 1928—Continued

CATCH: BY COUNTIES—Continued

Species	Sagadahoc		Waldo		Washington		York	
	Pounds	*Value*	*Pounds*	*Value*	*Pounds*	*Value*	*Pounds*	*Value*
Alewives	40, 600	$258	--------	--------	365, 000	$1, 070	187, 500	$3, 000
Butterfish	500	75	--------	--------	--------	--------	1, 500	300
Cod	822, 754	22, 050	65, 000	$1, 800	1, 243, 077	36, 893	351, 429	11, 401
Cusk	91, 018	1, 811	--------	--------	22, 522	250	6, 650	177
Eels	77, 050	6, 205	1, 000	120	1, 000	100	11, 200	1, 120
Flounders	8, 000	400	--------	--------	--------	--------	82, 335	3, 350
Haddock	586, 820	16, 704	15, 000	600	632, 362	13, 207	362, 095	10, 349
Hake	542, 225	10, 690	300	12	111, 265	1, 339	36, 154	664
Halibut	900	135	--------	--------	54, 718	9, 314	1, 890	244
Herring, sea	1, 005, 500	7, 615	3, 118, 050	21, 125	29, 805, 770	162, 340	--------	--------
Mackerel	142, 466	3, 589	--------	--------	2, 400	192	175, 000	7, 000
Pollock	30, 120	572	--------	--------	249, 626	3, 365	20, 416	433
Salmon	--------	--------	4, 650	1, 770	350	110	7	2
Shad	--------	--------	--------	--------	--------	--------	8, 000	400
Skates	--------	--------	--------	--------	--------	--------	75	11
Smelt	71, 635	15, 527	101, 900	21, 250	63, 750	17, 080	10, 000	1, 500
Sturgeon	--------	--------	--------	--------	--------	--------	78	10
Suckers	22, 560	2, 256	--------	--------	--------	--------	--------	--------
Tomcod	--------	--------	9, 000	90	--------	--------	--------	--------
Tuna	55, 332	3, 320	--------	--------	--------	--------	16, 000	640
Wolffish	--------	--------	--------	--------	--------	--------	1, 275	25
Crabs, hard	--------	--------	--------	--------	26, 400	198	--------	--------
Lobsters	188, 098	57, 240	--------	--------	1, 254, 832	378, 985	310, 575	79, 194
Clams, cockle	--------	--------	--------	--------	3, 000	180	--------	--------
Clams, soft, public	205, 080	17, 811	3, 000	300	1, 191, 600	58, 050	127, 000	12, 700
Scallops, sea	--------	--------	--------	--------	6, 000	3, 000	--------	--------
Periwinkles	--------	--------	--------	--------	2, 000	500	--------	--------
Total	3, 890, 658	166, 258	3, 317, 900	47, 067	35, 035, 672	686, 173	1, 709, 179	132, 520

INDUSTRIES RELATED TO THE FISHERIES

Transporting trade.—In 1928 there were 263 persons in Maine engaged primarily in transporting the catch of fish. In this trade 3 steam vessels and 128 motor vessels having a total capacity of 1,378 net tons were operated. The size of vessel in most popular use ranged from 5 to 10 net tons.

Wholesale trade.—There were 103 wholesale establishments in Maine engaged chiefly in handling fresh and frozen products. This number includes 2 in New Hampshire. This is 34 per cent of the total number of such establishments in the New England section. These establishments employed 427 persons who received $432,493 in salaries and wages. Knox County accounted for 27 of these establishments; Hancock County, 24; Washington County, 22; and Cumberland County, 17.

Prepared and by-products trade.—There were 119 establishments in Maine during 1928 engaged primarily in the manufacture of prepared fishery products or by-products. This is 78 per cent of the total number in the New England section. They employed 3,019 persons who received $1,704,135 in salaries and wages. The products manufactured consisting principally of canned sardines and clam products were valued at $10,291,561. Detailed statistics of most of the items manufactured may be obtained from "Fishery Industries of the United States, 1928." Bureau of Fisheries Document No. 1067.

In addition to the above, 614,054 pounds of fresh salted and smoked products valued at $21,030 were prepared by the fishermen.

Industries related to the fisheries of Maine, 1928

TRANSPORTING

Items	Number
Men on transporting vessels	263
Transporting vessels:	
Steam—	
20 to 30 tons	2
41 to 50 tons	1
Total	3
Net tonnage	87
Motor—	
5 to 10 tons	79
11 to 20 tons	44
Transporting vessels—Continued.	
Motor—Continued.	
21 to 30 tons	4
31 to 40 tons	1
Total	128
Net tonnage	1,291
Total vessels	131
Total net tonnage	1,378

WHOLESALE FISHERY TRADE [1]

Items	Cumberland County	Hancock County	Knox County	Lincoln County	Penobscot, Sagadahoc, and York Counties [1]	Washington County	Total
Establishments	17	24	27	7	6	22	103
Persons engaged:							
Proprietors	24	26	30	10	7	23	120
Salaried employees	22	3	16	2	1	9	53
Wage earners	141	40	34	10	5	24	254
Paid to salaried employees	$57,598	$12,900	$63,360	$10,705	$1,000	$11,252	$156,815
Paid to wage earners	176,145	30,100	38,099	10,954	6,000	14,380	275,678
Total salaries and wages	233,743	43,000	101,459	21,659	7,000	25,632	432,493

PREPARED FISHERY PRODUCTS AND BY-PRODUCTS [2]

Items	Number
Establishments	119
Persons engaged:	
Proprietors	147
Salaried employees	96
Wage earners	2,776
Paid to salaried employees	$257,909
Paid to wage earners	1,446,226
Total salaries and wages	1,704,135

Products [3]	Quantity	Value
Salted pounds	7,263,150	$400,197
Smoked do	5,071,264	472,308
Canned:		
Sardines standard cases [4]	2,055,763	8,076,546
Clam products do	164,856	599,671
Miscellaneous fishery products standard cases [4]	60,176	353,988
By-products:		
Scrap, meal, etc. tons	6,383	173,903
Herring oil gallons	166,055	57,974
Cod liver oil, crude do	47,232	36,667
Other products [5]		120,307
Total		10,291,561

PRODUCTS PREPARED BY THE FISHERMEN

Items	Pounds	Value
Fresh:		
Livers	240,475	$4,804
Sounds	500	15
Spawn	31,737	1,506
Tongues	1,730	35
Salted:		
Alewives	125,800	3,452
Cod	36,910	1,873
Salted—Continued.		
Cusk	685	$13
Hake	585	10
Mackerel	387	31
Pollock	45	1
Smoked: Alewives	175,200	9,290
Total	614,054	21,030

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[1] Includes 2 firms in Rockingham County, N. H.
[2] Includes a small quantity of fish smoked in New Hampshire.
[3] Includes the production of 21 firms whose activities were principally in the wholesale fishery trade.
[4] A standard case contains one hundred ¼-pound cans of sardines, 48 No. 1 cans of clam products or forty-eight 1-pound cans of miscellaneous canned fishery products.
[5] Includes herring skins and scales, tanners oil, and kelp products.

NEW HAMPSHIRE

The fisheries of New Hampshire in 1928 employed less than one-half of 1 per cent of the total number of fishermen and accounted for less than one-half of 1 per cent of the total catch of the New England section. Only two wholesale plants were operated in this State, therefore, the number of persons engaged, salaries and wages, and products of these establishments are included under Maine. No transporting vessels were operated. There were 53 persons engaged in fishing.

The total catch amounted to 239,099 pounds, valued at $45,535. This is a decrease of 47 per cent in the catch and 19 per cent in the value of the catch as compared with the catch and its value for 1924, which is the most recent year for which comparable data are available. Of the catch, lobsters accounted for 54 per cent of the quantity and 90 per cent of the value. The fisheries of New Hampshire were confined to Rockingham County.

OPERATING UNITS BY GEAR

The catch of fishery products in the marine waters of New Hampshire during 1928 was taken by 53 fishermen, 76 motor and other small fishing boats, and 2 major types of gear.

In the lobster pot fishery 36 fishermen were employed.

CATCH BY GEAR

The entire catch during 1928 in the marine waters of New Hampshire was taken by lobster pots and lines. Lobster pots accounted for 54 per cent and lines, the remaining 45 per cent. The catch by lobster pots was exclusively lobsters and that by lines principally haddock and cod.

Fisheries of New Hampshire, 1928

OPERATING UNITS: BY GEAR

Items	Lines		Lobster pots	Total, exclusive of duplication
	Trawl	Hand		
Fishermen:				
On boats and shore—	*Number*	*Number*	*Number*	*Number*
Regular	5		36	41
Casual		12		12
Total	5	12	36	53
Boats:				
Motor	2		36	38
Other	2		36	38
Apparatus:				
Number	100	48	2,380	
Hooks, baits, or snoods	5,000	192		

CATCH: BY GEAR

Species	Trawl lines		Hand lines		Lobster pots	
	Pounds	*Value*	*Pounds*	*Value*	*Pounds*	*Value*
Cod	25,000	$750				
Cusk	10,000	200				
Flounders	4,000	200				
Haddock	50,000	2,000				
Hake	10,000	200				
Pollock	5,000	150				
Smelt			5,000	$1,250		
Lobsters					130,099	$40,785
Total	104,000	3,500	5,000	1,250	130,099	40,785

MASSACHUSETTS

The fisheries of Massachusetts ranked first among the New England States during 1928, accounting for 46 per cent of the total number of fishermen and 63 per cent of the total catch. The fisheries and industries related to the fisheries employed 11,013 persons, which is 19 per cent greater than the number employed during 1924, the most recent year for which comparable data are available. Of the total 7,751 were fishermen, 78 were employed on transporting vessels, 2,104 in the wholesale trade, and 1,080 in the prepared products and by-products industries.

The total catch amounted to 380,168,359 pounds, valued at $15,648,776. This is an increase of 56 per cent in the catch and 45 per cent in the value of the catch as compared with the catch and its value for 1924. Of the total value of the catch, that for haddock accounted for 33 per cent; cod, 14 per cent; mackerel, 12 per cent; and flounders, 10 per cent. Of the total production, that of haddock accounted for 47 per cent; cod, 18 per cent; and mackerel and flounders, each 10 per cent.

OPERATING UNITS BY GEAR

The catch of fishery products in the marine waters of Massachusetts during 1928 was taken by 7,751 fishermen, who used 22 steam vessels, 397 motor vessels, 1 sailing vessel, 3,816 motor and other small fishing boats, and 17 major types of gear. The vessels had a combined capacity of 16,332 net tons.

The fisheries accounting for the greatest number of persons were the otter trawl fishery, employing 2,507 fishermen, and the trawl line fishery, employing 1,742 fishermen.

CATCH BY GEAR

Three types of gear accounted for 86 per cent of the fish taken in the marine fisheries of Massachusetts during 1928. Listed in order of their importance they were otter trawls, which accounted for 52 per cent of the catch; lines, 26 per cent; and purse seines, 8 per cent. The catch by otter trawls consisted largely of haddock, flounders, and cod; that by lines principally haddock, cod, hake, and halibut; and that by purse seines mostly mackerel.

OPERATING UNITS BY COUNTIES

Suffolk County was foremost in the number of persons fishing, accounting for 31 per cent of the total. Essex County followed with 28 per cent. Other counties employing a considerable number of fishermen, listed in order of their importance, were Barnstable, Plymouth, Bristol, and Nantucket. Suffolk County accounted for 40 per cent of the total number of fishing vessels and Essex 33 per cent. Barnstable County led in the number of motor and other small fishing boats, accounting for 33 per cent of the total. Plymouth followed with 21 per cent.

CATCH BY COUNTIES

Fishing was prosecuted in the marine waters of eight counties in Massachusetts during 1928. Ranked according to value the fisheries of Suffolk were most important, accounting for 53 per cent of the total catch and 42 per cent of the total value of the catch. Essex County was next in the value of the catch, accounting for 28 per cent of quantity and 29 per cent of the total value. Other important counties listed in order of their importance with respect to the value of the catch were Barnstable, Bristol, and Dukes.

Fisheries of Massachusetts, 1928

OPERATING UNITS: BY GEAR

Items	Purse seines, market fish	Haul seines, common	Gill nets		Lines		Pound nets	Floating traps
			Drift	Anchor	Trawl	Hand		
Fishermen:	*Number*	*Number*	*Number*	*Number*	*Number*	*Number*	*Number*	*Number*
On vessels	1,013	--------	450	133	1,328	362	--------	--------
On boats and shore—								
Regular	81	15	178	10	403	131	187	41
Casual	3	34	9	3	11	27	--------	4
Total	1,097	49	637	146	1,742	520	187	45
Vessels:								
Motor—								
5 to 10 tons	7	--------	16	4	7	4	--------	--------
11 to 20 tons	33	--------	33	8	4	6	--------	--------
21 to 30 tons	11	--------	6	5	2	1	--------	--------
31 to 40 tons	9	--------	4	--------	3	--------	--------	--------
41 to 50 tons	12	--------	3	--------	3	3	--------	--------
51 to 60 tons	10	--------	1	--------	11	8	--------	--------
61 to 70 tons	8	--------	--------	--------	20	1	--------	--------
71 to 80 tons	2	--------	--------	--------	9	1	--------	--------
81 to 90 tons	--------	--------	--------	--------	2	2	--------	--------
91 to 100 tons	1	--------	--------	--------	3	1	--------	--------
101 to 110 tons	1	--------	--------	--------	1	--------	--------	--------
111 to 120 tons	--------	--------	--------	--------	2	--------	--------	--------
121 to 130 tons	--------	--------	--------	--------	2	--------	--------	--------
131 to 140 tons	--------	--------	--------	--------	1	--------	--------	--------
Total	94	--------	63	17	70	27	--------	--------
Net tonnage	3,140	--------	1,078	290	4,178	1,109	--------	--------
Sail	--------	--------	1	--------	1	--------	--------	--------
Net tonnage	--------	--------	152	--------	152	--------	--------	--------
Total vessels	94	--------	64	--------	71	27	--------	--------
Total net tonnage	3,140	--------	1,230	--------	4,330	1,109	--------	--------
Boats:								
Motor	11	8	69	11	175	86	71	16
Other	2	11	45	9	102	86	115	16
Apparatus:								
Number	106	10	7,677	902	49,932	731	121	25
Length, yards	52,715	520	--------	--------	--------	--------	--------	--------
Square yards	--------	--------	2,059,774	252,160	--------	--------	--------	--------
Hooks, baits, or snoods	--------	--------	--------	--------	2,453,480	1,646	--------	--------

Fisheries of Massachusetts, 1928—Continued

OPERATING UNITS: BY GEAR—Continued

Items	Fyke nets	Dip nets	Otter trawls	Pots				Harpoons, swordfish
				Crab	Eel	Lobster	Periwinkle and cockle	
Fishermen:	*Number*	*Number*	*Number*	*Number*	*Number*	*Number*	*Number*	*Number*
On vessels			2,113			14		1,190
On boats and shore—								
Regular	15	50	393	37	52	725	4	3
Casual	8	10		2	25	1		
Total	23	60	2,506	39	77	740	4	1,193
Vessels:								
Steam—								
91 to 100 tons			4					
111 to 120 tons			5					
121 to 130 tons			1					
131 to 140 tons			1					
151 to 160 tons			2					
161 to 170 tons			1					
171 to 180 tons			2					1
181 to 190 tons			1					
201 to 210 tons			1					
211 to 220 tons			2					
241 to 250 tons			1					
261 to 270 tons			1					
Total			22					1
Net tonnage			3,405					180
Motor—								
5 to 10 tons			39			6		7
11 to 20 tons			103			2		45
21 to 30 tons			20					7
31 to 40 tons			13					4
41 to 50 tons			10					5
51 to 60 tons			20					17
61 to 70 tons			6					12
71 to 80 tons			4					4
81 to 90 tons								1
91 to 100 tons			3					1
101 to 110 tons			5					
111 to 120 tons			4					
121 to 130 tons			1					
131 to 140 tons								1
Total			228			8		104
Net tonnage			6,439			64		3,641
Total vessels			250			8		105
Total net tonnage			9,844			64		3,821
Boats:								
Motor	15	32	131	36	42	567		3
Other	15	18	82	8	50	522		3
Apparatus:								
Number	92	45	379	2,315	1,678	61,687	400	108
Yards at mouth			10,288					

Fisheries of Massachusetts, 1928—Continued

OPERATING UNITS: BY GEAR

Items	Spears	Dredges			Tongs	Rakes	Forks	Hoes	Total, exclusive of duplication
		Oyster	Scallop	Clam					
Fishermen:	*Number*	*Number*	*Number*	*Number*	*Number*	*Number*	*Number*	*Number*	*Number*
On vessels		14	33	41		2			4,152
On boats and shore—									
Regular	65	48	848	115	125	490	22	481	3,275
Casual	19	1	120	73				1	324
Total	84	63	1,001	229	125	492	22	482	7,751
Vessels:									
Steam—									
91 to 100 tons									4
111 to 120 tons									5
121 to 130 tons									1
131 to 140 tons									1
151 to 160 tons									2
161 to 170 tons									1
171 to 180 tons									2
181 to 190 tons									1
201 to 210 tons									1
211 to 220 tons									2
241 to 250 tons									1
261 to 270 tons									1
Total									22
Net tonnage									3,405
Motor—									
5 to 10 tons		5	10	10		1			78
11 to 20 tons		1	2	6					139
21 to 30 tons									34
31 to 40 tons									20
41 to 50 tons									23
51 to 60 tons									37
61 to 70 tons									27
71 to 80 tons									13
81 to 90 tons									3
91 to 100 tons									8
101 to 110 tons									6
111 to 120 tons									6
121 to 130 tons									2
131 to 140 tons									1
Total		6	12	16		1			397
Net tonnage		58	98	150		5			12,775
Sail									1
Net tonnage									152
Total vessels		6	12	16		1			420
Total net tonnage		58	98	150		5			16,332
Boats:									
Motor	4	27	542	64	33	243	2	86	1,957
Other	23	21	346	17	99	261	3	154	1,859
Apparatus:									
Number	86	56	3,230	211	125	498	22	482	
Yards at mouth		68	3,521	220					

Fisheries of Massachusetts, 1928—Continued

CATCH: By gear

Species	Purse seines, market fish		Haul seines, common		Gill nets			
					Drift		Anchor	
	Pounds	*Value*	*Pounds*	*Value*	*Pounds*	*Value*	*Pounds*	*Value*
Alewives	345,900	$4,550	1,607,560	$21,756	2,300	$87		
Bluefish					3,215	684		
Bonito	730	29			1,100	29		
Butterfish	67,425	9,594			2,370	220	110	$22
Cod					258,281	14,253	4,394,941	229,580
Cusk					126	3	3,017	67
Flounders							1,274	13
Haddock					84,551	1,469	1,519,485	31,889
Hake			45,000	900	1,737	37	67,613	1,250
Halibut					22	4	482	94
Herring, sea	451,200	4,797			765,026	7,750		
Mackerel	28,938,651	1,478,416	18,000	900	5,610,612	292,400	2,204	176
Pollock	133,290	5,835			198,736	3,822	3,296,318	62,411
Sand launce	139,575	1,596						
Shad	5,189	254						
Sharks	660	25			4,148	111	14,926	229
Skates							375	6
Tautog							300	21
White perch			10,400	1,560				
Whiting	5,261	89						
Wolffish	7,600	76					4,411	107
Total	30,095,481	1,505,261	1,680,960	25,116	6,932,224	320,869	9,305,456	325,865

Species	Lines				Pound nets		Floating traps		Fyke nets	
	Trawl		Hand							
	Pounds	*Value*	*Pounds*	*Value*	*Pounds*	*Value*	*Pounds*	*Value*	*Pounds*	*Value*
Alewives					17,347	$176	68,225	$738		
Bluefish			1,100	$170	5,396	589	4,805	256		
Bonito					16,565	1,891	36	5		
Butterfish					401,384	54,019	40,750	6,138		
Cod	40,555,298	$1,269,921	8,837,372	294,065	44,940	1,956	18,370	585		
Cusk	2,077,493	49,130	40,625	919						
Eels			6,598	990	11,588	1,686			40,554	$5,587
Flounders	244,053	11,062	44,294	3,229	23,794	1,377	450	22	5,000	300
Grayfish					68,210	818				
Haddock	32,707,417	1,060,608	777,411	23,124	680	27				
Hake	6,209,743	135,442	178,497	3,625						
Halibut	3,584,565	538,868	64,336	10,670						
Herring, sea					2,089,000	25,548	523,983	6,437		
Hickory shad					25	2				
King whiting					98	14				
Mackerel			3,608	329	2,090,560	67,626	294,069	11,002		
Menhaden					4,356	48				
Pollock	1,351,779	25,569	810,804	16,222	21,087	642	10,600	167		
Rosefish	1,250	18								
Salmon	10,134	407			10	2	52	13		
Sand launce					173,105	1,731				
Scup			784,140	31,665	71,066	2,994				
Sea bass			150,500	15,040	3,781	509				
Shad					24,732	1,934	960	132		
Sharks	7,065	182	50	1	9,249	237				
Skates	5,000	75			5,540	133				
Skipper or "bill-fish"					11,938	826	912	128		
Smelt			31,896	4,389	460	34				
Squeteagues					3,426	498				
Striped bass			2,009	801	6,348	710				
Sturgeon					430	68	260	52		
Tautog	25,000	2,500	100,949	8,160	25,682	2,299				
Tomcod					585	29				
Tuna or horse mackerel					30,487	3,060	3,660	306		
Whiting			30,000	900	5,145,737	51,465	1,526,166	13,761		
Wolffish	89,332	2,435	26,032	732						
Yellow perch					50	5				
Squid					5,164,495	110,246	375,929	7,276		
Total	86,868,129	3,096,217	11,890,221	415,031	15,472,151	333,199	2,869,227	47,018	45,554	5,887

Fisheries of Massachusetts, 1928—Continued

CATCH: BY GEAR—Continued

Species	Dip nets		Otter trawls		Pots, crab	
	Pounds	*Value*	*Pounds*	*Value*	*Pounds*	*Value*
Alewives	191,640	$1,916	15,000	$75		
Bonito			34	1		
Butterfish			68,358	10,004		
Cod			13,556,487	458,015		
Cunner			30	2		
Cusk			64,001	1,450		
Flounders			36,367,062	1,624,671		
Haddock			142,488,231	4,113,844		
Hake			2,818,482	63,415		
Halibut			411,308	56,514		
Herring, sea	1,814,929	27,945	1,400	32		
Mackerel			203,387	12,090		
Pollock			1,878,112	54,115		
Rosefish			122,138	1,865		
Salmon			5,854	288		
Scup			66	1		
Sea robin			350	3		
Shad			30	2		
Sharks			4,569	123		
Skates			22,003	406		
Sturgeon			2,148	447		
Whiting			288,666	4,752		
Wolffish			393,438	10,000		
Crabs, hard					3,079,619	$70,484
Shrimp	1,200	900				
Scallops, sea			3,318	185		
Total	2,007,769	30,761	198,714,472	6,412,300	3,079,619	70,484

Species	Pots						Harpoons, swordfish	
	Eel		Lobster		Periwinkle and cockle			
	Pounds	*Value*	*Pounds*	*Value*	*Pounds*	*Value*	*Pounds*	*Value*
Eels	216,418	$23,713						
Sharks							41,251	$6,997
Swordfish							2,730,085	481,016
Tuna or horse mackerel							1,495	79
Crabs, hard			59,500	$1,083				
Lobsters			2,042,331	761,561				
Clams, cockle					5,370	$2,317		
Total	216,418	23,713	2,101,831	762,644	5,370	2,317	2,772,831	488,092

Species	Spears		Dredges			
			Oyster		Scallop	
	Pounds	*Value*	*Pounds*	*Value*	*Pounds*	*Value*
Eels	80,991	$10,329				
Oysters, market, private			578,823	$277,450		
Oysters, seed, private			278,544	40,139		
Scallops, bay					1,206,306	$536,550
Scallops, sea					115,806	42,395
Total	80,991	10,329	857,367	317,589	1,322,112	578,945

Species	Dredges, clam		Tongs	
	Pounds	*Value*	*Pounds*	*Value*
Clams, hard, public	533,952	$141,914	239,488	$91,731
Clams, soft, public			1,370	223
Oysters, market, private			147,126	76,654
Oysters, seed, private			17,080	1,586
Total	533,952	141,914	405,064	170,194

Fisheries of Massachusetts, 1928—Continued

CATCH: BY GEAR—Continued

Species	Rakes		Forks		Hoes	
	Pounds	*Value*	*Pounds*	*Value*	*Pounds*	*Value*
lams, cockle					1,500	$600
lams, hard, public	857,536	$279,939			30,440	11,415
lams, soft, public	32,860	5,735			1,762,860	227,279
lams, razor					38,400	8,000
ysters, market, private	4,081	1,749	23,919	$9,651		
ysters, seed, private	16,226	1,507	12,880	1,196		
eriwinkles	10,250	1,600				
callops, bay	28,998	11,798				
rish moss	91,210	4,562				
Total	1,041,161	306,890	36,799	10,847	1,833,200	247,294

OPERATING UNITS: BY COUNTIES

Items	Barnstable	Bristol	Dukes	Essex	Nantucket	Norfolk	Plymouth	Suffolk
ishermen:	*Number*	*Number*	*Number*	*Number*	*Number*	*Number*	*Number*	*Number*
On vessels	113	246	47	1,675	95		4	1,972
On boats and shore—								
Regular	942	354	216	444	198	47	664	410
Casual	21	7	58	49	158		31	
Total	1,076	607	321	2,168	451	47	699	2,382
essels:								
Steam—								
91 to 100 tons								4
111 to 120 tons								5
121 to 130 tons								1
131 to 140 tons								1
151 to 160 tons								2
161 to 170 tons								1
171 to 180 tons								2
181 to 190 tons				1				
201 to 210 tons								1
211 to 220 tons								2
241 to 250 tons								1
261 to 270 tons								1
Total				1				21
Net tonnage				184				3,221
Motor—								
5 to 10 tons	14	12	7	19	9		2	15
11 to 20 tons	12	19	3	32	16			57
21 to 30 tons		8	1	13	1			11
31 to 40 tons		4		6				10
41 to 50 tons		2	1	13				7
51 to 60 tons		1		19				17
61 to 70 tons	1			16				10
71 to 80 tons				11				2
81 to 90 tons				3				
91 to 100 tons				4				4
101 to 110 tons				2				4
111 to 120 tons								6
121 to 130 tons								2
131 to 140 tons								1
Total	27	46	12	138	26		2	146
Net tonnage	344	870	171	5,557	304		20	5,509
Sail				1				
Net tonnage				152				
Total vessels	27	46	12	140	26		2	167
Total net tonnage	344	870	171	5,893	304		20	8,730
oats:								
Motor	555	210	203	259	144	41	410	135
Other	715	238	209	240	17	48	392	

Fisheries of Massachusetts, 1928—Continued

OPERATING UNITS: BY COUNTIES—Continued

Items	Barnstable	Bristol	Dukes	Essex	Nantucket	Norfolk	Plymouth	Suffolk
Apparatus:	*Number*	*Number*	*Number*	*Number*	*Number*	*Number*	*Number*	*Number*
Purse seines, market fish	8	1	1	51				45
Yards	3,200	120	120	27,060				22,215
Haul seines, common	1		2	6			1	
Yards	20		240	240			20	
Gill nets—								
Drift	885	160	479	3,655			10	2,488
Square yards	171,200	33,800	135,120	1,029,714			1,800	688,140
Anchor	20			834				48
Square yards	3,600			235,024				13,536
Lines—								
Trawl	3,260		240	22,292	80		160	23,900
Hooks	163,000		12,000	1,049,680	4,000		41,000	1,183,800
Hand	72	78	24	373		10	20	154
Hooks	252	156	48	822		20	40	308
Pound nets	94	9	11	2	4		1	
Floating traps	6			19				
Fyke nets	78	2	12					
Dip nets	7			13		2	8	15
Otter trawls	66	34	15	53	22			189
Yards at mouth	1,683	986	384	1,430	645			5,160
Pots—								
Crab				990		30	215	1,080
Eel	788	175	285	175	155		100	
Lobster	8,524	10,895	11,700	14,052	900	2,567	11,849	1,200
Periwinkle and cockle	400							
Harpoons, swordfish	2	6	11	52	7			30
Spears	42	29		3			12	
Dredges—								
Oyster	28	6					22	
Yards at mouth	31	7					30	
Scallop	558	442	508		692		1,030	
Yards at mouth	928	590	22		608		1,373	
Clam	30	72	11		98			
Yards at mouth	27	67	2		124			
Tongs	41	56					28	
Rakes	297	15	86		50	4	46	
Forks	4						18	
Hoes	107	15		182			178	

CATCH: BY COUNTIES

Species	Barnstable		Bristol		Dukes		Essex	
	Pounds	*Value*	*Pounds*	*Value*	*Pounds*	*Value*	*Pounds*	*Value*
Alewives	360,000	$3,280	2,667	$29	627,240	$6,273	523,265	$6,029
Bluefish	7,053	1,115	917	56	1,121	244	4,825	260
Bonito	6,497	682	12	2	3,092	372	1,830	58
Butterfish	305,169	40,662	9,982	1,421	85,892	10,308	94,954	14,098
Cod	2,597,463	105,394	1,403 536	52,400	124,578	3,858	30,385,823	1,042,668
Cusk	30.929	789	7,040	128	3,600	68	858,879	18,664
Eels	187,221	21,903	44,130	6,619	65,450	6,667	16,998	2,000
Flounders	8,060,845	343,169	6,038,636	312,425	1,327,985	53,522	2,055,927	114,170
Grayfish	3,360	168	3,348	35	53,502	535		
Haddock	3,833,732	125,001	10,556,956	299.780	453,146	14,426	37,601,048	1,149.607
Hake	590,353	12,457	94,772	1,680	12,766	262	2,314,314	48,732
Halibut	31,929	4,636	202,179	21,275	75	54	2,867,195	423,136
Herring, sea	1,952,970	23,622	31,688	1,604	1,560	16	2,239,908	23,720
Hickory shad					25	2		
King whiting	11	3	50	5	37	6		
Mackerel	4,173,905	148,691	153,736	9,175	765,509	34,257	18,607,318	977,528
Menhaden			243	7	4,113	41		
Pollock	232,631	6,011	17,843	435	12,156	365	4,756,207	91,829
Rosefish	3,259	46	438	5			20,220	243
Salmon	85	4					4,772	197
Sand launce	312,680	3,327						
Scup	755,104	30,352	31,009	1,557	69,089	2,749		
Sea bass	150,140	15,014			2,741	255		
Shad	24,368	1,904	33	4	16	2	5,190	328
Sharks	1,970	104	4,079	41	200	2	60,095	7,368
Skates	2,475	124	3,205	104	2,335	29	4,070	62
Skipper or "billfish"	12,850	954						
Smelt	150	3	310	31			7,496	1,949
Squeteagues	123	13	2,481	361	822	124		
Striped bass	8,060	1,482	259	24	38	5		

Fisheries of Massachusetts, 1928—Continued

CATCH: BY COUNTIES—Continued

Species	Barnstable		Bristol		Dukes		Essex	
	Pounds	*Value*	*Pounds*	*Value*	*Pounds*	*Value*	*Pounds*	*Value*
urgeon	50	$8					807	$161
wordfish	15, 058	2, 710	261, 218	$43, 237	398. 188	$66, 513	1, 299, 214	232, 888
autog	27, 054	2, 144	96, 962	8, 184	2, 615	131	300	21
omcod			585	29				
una or horsé mackerel	32, 647	3, 276					2, 995	169
hite perch					10, 400	1, 560		
hiting	5, 760, 073	57, 601	4, 220	49	75, 170	753	832, 943	6, 846
olffish	46, 501	956	486	10	500	10	92, 058	2, 147
ellow perch			50	5				
rabs, hard							130, 500	3, 213
obsters	165, 264	72, 763	270, 652	98, 647	550, 743	178, 080	578, 069	214, 014
hrimp	1, 200	900						
quid	5, 160, 021	108, 537	121, 933	4, 208	100, 125	1, 001	76, 145	1, 280
lams, cockle	5, 370	2, 317						
lams, hard, public	517, 104	179, 909	333, 824	126, 902	240, 000	85, 300		
lams, razor	38, 400	8, 000						
lams, soft, public	215, 870	43, 081	1, 000	250	4, 800	960	1, 136, 230	113, 623
ysters, market, private	707, 686	345, 677	2, 100	900				
ysters, seed, private	139, 503	27, 018	14, 700	1, 575				
eriwinkles			250	100				
allops, bay	278, 322	132, 389	53, 184	21, 183	231, 396	123, 218		
allops, sea	28, 014	13, 005	87, 060	29, 020			3, 030	159
Total	36, 783, 470	1, 891, 201	19, 857, 773	1, 043, 502	5, 231, 025	591, 968	106, 572, 625	4, 497, 167

Species	Nantucket		Norfolk		Plymouth		Suffolk	
	Pounds	*Value*	*Pounds*	*Value*	*Pounds*	*Value*	*Pounds*	*Value*
ewives			32. 000	$320	601, 500	$12, 075	101. 300	$1, 292
uefish	600	$24						
onito	7, 000	840					34	1
utterfish	16, 950	3, 390			510	77	66, 940	10, 041
od	464, 915	14, 672			12, 200	732	32, 687, 174	1, 048, 651
unner							30	2
usk							1, 284, 814	31, 920
els	20, 600	1, 854			21, 750	3, 262		
ounders	4, 693, 467	168, 762					14, 509, 067	648, 626
rayfish	8, 000	80						
addock	1, 254, 379	33, 531			16, 510	826	123, 862, 004	3, 607, 790
ake	1, 268	31					6, 307, 599	141, 507
alibut	433	68					958, 902	156, 981
erring, sea					466, 812	4, 918	952, 600	18, 629
ackerel	21, 450	572			45, 760	3, 738	13, 393, 413	688, 978
llock	1, 645	36					2, 680, 244	70, 107
osefish							99, 471	1, 589
lmon							11, 193	509
up	4	1					66	1
a bass	1, 400	280						
a robin							350	3
ad	1, 000	60					304	24
arks	3, 000	90					12, 574	300
ates							20, 833	301
nelt			14, 720	1, 472	9, 680	968		
rgeon	380	60					1, 601	338
ordfish	121, 935	20, 873					634, 472	114, 795
utog					25, 000	2, 500		
niting					1, 540	15	321, 884	5, 703
olffish	330	6					380, 937	10, 221
abs, hard			14. 809	740	43. 810	489	2, 950, 000	67, 125
bsters	38, 250	15, 300	78, 008	35, 330	326, 045	135, 072	35, 300	12, 355
uid	53, 800	1, 076			28, 400	1, 420		
ams, cockle					1, 500	600		
ams, hard, public	509, 888	110, 163			60, 600	22, 725		
ams, soft, public					439, 190	75, 323		
ster, market, private					44, 163	18, 927		
sters, seed, private					170, 527	15, 835		
riwinkles					10, 000	1, 500		
llops, bay	123, 852	65, 858			548, 550	205, 700		
llops, sea	774	385					246	11
h moss			17, 160	859	74, 050	3, 703		
Total	7, 345. 320	438, 012	156. 697	38, 721	2, 948, 097	510, 405	201, 273, 352	6, 637, 800

INDUSTRIES RELATED TO THE FISHERIES

Transporting trade.—In 1928 there were 78 persons in Massachusetts engaged primarily in transporting the catch of fish. In this trade 18 motor vessels and 3 sailing vessels having a total capacity of 747 net tons were operated. The size of vessel in most popular use ranged from 5 to 20 net tons.

Wholesale trade.—There were 150 wholesale establishments along the coast of Massachusetts engaged chiefly in handling fresh and frozen products. This is 50 per cent of the total number of such establishments in New England. These establishments employed 2,104 persons who received $3,574,504 in salaries and wages. Suffolk County had 96 wholesale establishments. Other counties of importance were Barnstable, Essex, and Bristol.

Prepared and by-products trade.—There were 30 establishments along the coast of Massachusetts in 1928 engaged primarily in the prepared fishery products or by-products trade. This is 19 per cent of the total number of such establishments in the New England section. These establishments employed 1,080 persons who received $1,571,352 in salaries and wages. The products manufactured, consisting principally of salted fish and miscellaneous canned fishery products, were valued at $6,014,353. Detailed statistics of most of the items manufactured may be obtained from "Fishery Industries of the United States, 1928," Bureau of Fisheries Document No. 1067.

In addition to the above, 3,430,275 pounds of fresh and salted fishery products valued at $141,124 were prepared by the fishermen.

Industries related to the fisheries of Massachusetts, 1928

TRANSPORTING

Items	Number	Items	Number
Men on transporting vessels	78	Transporting vessels—Continued.	
Transporting vessels:		Sail—	
Motor—		81 to 90 tons	1
5 to 10 tons	6	91 to 100 tons	2
11 to 20 tons	6	Total	3
21 to 30 tons	2	Net tonnage	271
41 to 50 tons	1	Total vessels	21
71 to 80 tons	1	Total net tonnage	747
81 to 90 tons	2		
Total	18		
Net tonnage	476		

WHOLESALE FISHERY TRADE

Items	Barnstable County	Bristol County	Dukes, Nantucket, and Plymouth Counties	Essex County	Suffolk County	Total
Establishments	22	8	6	18	96	150
Persons engaged:						
Proprietors	19	8	8	31	170	236
Salaried employees	32	9	6	34	305	386
Wage earners	192	43	17	167	1,063	1,482
Paid to salaried employees	$66,954	$24,805	$11,140	$99,671	$1,368,470	$1,571,040
Paid to wage earners	252,584	63,620	22,620	170,884	1,493,756	2,003,464
Total salaries and wages	319,538	88,425	33,760	270,555	2,862,226	3,574,504

Industries related to the fisheries of Massachusetts, 1928—Continued

PREPARED FISHERY PRODUCTS AND BY-PRODUCTS

Items	Number	Products [1]	Quantity	Value
tablishments	30	Salted ... pounds	16, 294, 618	$1, 966, 418
rsons engaged:		Smoked ... do	6, 462, 188	790, 801
Proprietors	41	Canned:		
Salaried employees	115	Mackerel ... standard cases [2]	10, 382	92, 425
Wage earners	924	Miscellaneous fishery products		1, 359, 606
		Scrap, meal, etc ... tons	6, 943	445, 732
id to salaried employees	$356, 819	Cod liver oil, crude ... gallons	171, 911	134, 550
id to wage earners	1, 214, 533	Other products [3]		1, 224, 821
Total salaries and wages	1, 571, 352	Total		6, 014, 353

PRODUCTS PREPARED BY THE FISHERMEN

Items	Pounds	Value	Items	Pounds	Value
sh:			Salted—Continued		
Livers	450, 000	$11, 000	Halibut	3, 630	$316
Spawn	256, 807	15, 176	Herring	615, 600	22, 950
ted:			Mackerel	65, 430	3, 861
Alewives	560, 000	14, 000	Pollock	8, 616	173
Cod	1, 443, 919	72, 744	Sturgeon caviar	168	168
Cusk	6, 405	136			
Haddock	7, 980	414	Total	3, 430, 275	141, 124
Hake	11, 720	186			

Includes salted and smoked fish prepared by eight firms whose activities were principally in the whole- fishery trade.

A standard case contains forty-eight 1-pound cans of mackerel.

Includes liquid glue, herring scales, isinglass and blackfish oil.

RHODE ISLAND

The fisheries of Rhode Island in 1928 employed 8 per cent of the tal number of fishermen and accounted for 5 per cent of the total tch of the New England section. The fisheries and industries ated to the fisheries employed 1,674 persons, which is 14 per cent eater than the number employed during 1924—the most recent ar for which comparable data are available. Of the total, 1,259 re fishermen, 34 were employed on transporting vessels, 313 in the iolesale trade, and 68 in the prepared products and by-products lustries.

The total catch amounted to 27,666,153 pounds, valued at $2,397- 1. This is an increase of 35 per cent in the catch and 32 per cent value of the catch as compared with the catch and its value for 24. Of the total value of the catch that for oysters accounted for per cent; lobsters, 15 per cent; hard clams and flounders, each, per cent; and mackeral and scup, each, 7 per cent. Of the total oduction that for flounders accounted for 16 per cent; oysters, 11 cent; mackerel, 10 per cent; squid and cod, each, 8 per cent; l scup, 7 per cent.

OPERATING UNITS BY GEAR

The catch of fishery products in the marine waters of Rhode Island ring 1928 was taken by 1,259 fishermen, 10 steam vessels, 73 motor ssels, 994 motor and other small fishing boats, and 16 major types gear. The vessels had a combined capacity of 1,045 net tons.

The fisheries accounting for the greatest number of persons were lobster pot fishery, employing 402 fishermen and the tong fishery ploying 280 fishermen.

CATCH BY GEAR

Four types of gear accounted for 71 per cent of the fish taken in the marine waters of Rhode Island during 1928. Listed in order of their importance they were floating traps which accounted for 33 per cent of the catch; otter trawls, 18 per cent; dredges, 13 per cent; and pots, 7 per cent. The catch by floating traps consisted largely of squid, scup, mackerel, whiting, and butterfish; that by otter trawls chiefly flounders; that by dredges principally oysters; and that by pots almost exclusively lobsters.

OPERATING UNITS BY COUNTIES

Newport County was foremost in the number of persons fishing, accounting for 49 per cent of the total. Washington and Kent Counties followed, each, with 17 per cent. Newport County accounted for 66 per cent of the total number of fishing vessels and Washington accounted for 12 per cent. Newport County also led in the number of motor and other small fishing boats accounting for 39 per cent of the total. Kent County followed with 31 per cent.

CATCH BY COUNTIES

Fishing was prosecuted in the marine waters of five counties in Rhode Island during 1928. Ranked according to value the fisheries of Newport County were most important accounting for 69 per cent of the catch and 48 per cent of the value of the catch. Providence County followed with 8 per cent of the catch and 18 per cent of the value of the catch. Washington County accounted for 17 per cent of the catch and 18 per cent of the value of the catch.

Fisheries of Rhode Island, 1928

OPERATING UNITS: BY GEAR

Items	Purse seines		Haul seines, common	Gill nets			Lines		Pound nets
	Menhaden	Other		Drift	Anchor	Run-around	Trawl	Hand	
Fishermen:	*Number*	*Number*	*Number*	*Number*	*Number*	*Number*	*Number*	*Number*	*Number*
On vessels	22	28	22	18			15	70	
On boats and shore—									
Regular			36			5	11	77	53
Casual			9		2			5	
Total	22	28	67	18	2	5	26	152	53
Vessels:									
Steam—									
41 to 50 tons	1		1						
Total	1		1						
Net tonnage	45		45						
Motor—									
5 to 10 tons		4		2			2	24	
11 to 20 tons		4		3			2	3	
Total		8		5			4	27	
Net tonnage		89		55			40	213	
Total vessels	1	8	1	5			4	27	
Total net tonnage	45	89	45	55			40	213	
Boats:									
Motor			5		2	1	7	57	17
Other			14			1		2	48
Apparatus:									
Number	1	8	15	246	8	1	470	224	64
Length, yards	400	1,000	1,485						
Square yards				96,422	1,200	12,000			
Hooks, baits or snoods							27,440	232	

Fisheries of Rhode Island, 1928—Continued

OPERATING UNITS: BY GEAR—Continued

Items	Floating traps	Fyke nets	Dip nets	Otter trawls	Pots			Harpoons, swordfish	Spears
					Eel	Lobster	Periwinkle and cockle		
shermen:	*Number*	*Number*	*Number*	*Number*	*Number*	*Number*	*Number*	*Number*	*Number*
On vessels				156		29		93	
On boats and shore—									
Regular	141	6	13	35	24	300	5	30	15
Casual	3	3		1	14	73			23
Total	144	9	13	192	38	402	5	123	38
ssels:									
Steam—									
5 to 10 tons				3					
11 to 20 tons				2					
41 to 50 tons				1					
Total				6					
Net tonnage				94					
Motor—									
5 to 10 tons				35		13		26	
11 to 20 tons				11		1		6	
21 to 30 tons				2					
Total				48		14		32	
Net tonnage				450		107		265	
Total vessels				54		14		32	
Total net tonnage				544		107		265	
ats:									
Motor	16	7	9	23	30	265	4	14	1
Other	73	2	1		3	42			18
pparatus:									
Number	58	63	13	77	1, 565	36, 925	300	47	38
Yards at mouth				2, 021					

Items	Dredges		Tongs	Rakes	Hoes	Total, exclusive of duplication
	Oyster	Scallop				
shermen:	*Number*	*Number*	*Number*	*Number*	*Number*	*Number*
On vessels	76	17	5			263
On boats and shore—						
Regular	1	82	172	80		731
Casual		40	103	37	3	265
Total	77	139	280	117	3	1, 259
ssels:						
Steam—						
5 to 10 tons		1				3
11 to 20 tons						2
21 to 30 tons	1					1
41 to 50 tons	1					2
51 to 60 tons	1					1
61 to 70 tons	1					1
Total	4	1				10
Net tonnage	191	8				285
Motor—						
5 to 10 tons	3	1	3			49
11 to 20 tons	8	2				20
21 to 30 tons	1	1				3
51 to 60 tons	1					1
Total	13	4	3			73
Net tonnage	217	64	19			760
Total vessels	17	5	3			83
Total net tonnage	408	72	19			1, 045
ats:						
Motor	1	67	159	49		526
Other	1	9	252	58		468
paratus:						
Number	35	290	209	93	3	
Yards at mouth	50	238				

Fisheries of Rhode Island, 1928—Continued

CATCH: By gear

Species	Purse seines				Haul seines, common		Gill nets			
	Menhaden		Other				Drift		Anchor	
	Pounds	*Value*	*Pounds*	*Value*	*Pounds*	*Value*	*Pounds*	*Value*	*Pounds*	*Value*
Eels					8, 500	$1, 160				
Flounders					2, 282	201				
Herring, sea					123, 700	2, 684				
Mackerel			660, 000	$29, 125			180, 300	$10, 818		
Menhaden	1, 700, 000	$17, 000								
Squeteagues					220	17				
Striped bass					2, 520	756			240	$72
Suckers					32	3				
Tautog					3, 600	285			1, 800	164
White perch					470	122				
Total	1, 700, 000	17, 000	660, 000	29, 125	141, 324	5, 228	180, 300	10, 818	2, 040	236

Species	Gill nets, run around		Lines				Pound nets	
			Trawl		Hand			
	Pounds	*Value*	*Pounds*	*Value*	*Pounds*	*Value*	*Pounds*	*Value*
Alewives							99, 400	$1, 995
Bluefish	1, 200	$240			200	$32	1, 170	117
Bonito							450	45
Butterfish							183, 360	20, 569
Cod			242, 973	$15, 731	1, 562, 182	88, 441	2, 541	116
Cunners					1, 200	36	4, 925	89
Eels							72, 175	6, 643
Flounders			31, 250	3, 125	8, 350	810	123, 137	7, 286
Grayfish							2, 100	21
Haddock			173, 118	6, 293	70, 796	2, 596		
Hake					13, 973	632	27, 076	1, 153
Herring, sea							72, 250	1, 256
Hickory shad							1, 330	82
King whiting							285	16
Mackerel					358, 930	52, 795	153, 450	7, 094
Menhaden							16, 250	163
Pollock			462	15	29, 190	800	19, 641	1, 647
Salmon							25	5
Scup							66, 510	6, 133
Sea bass					210	21	16, 035	1, 603
Sea robin							39, 310	355
Shad							200	21
Sharks							1, 990	14
Skates					17, 470	373	40, 650	497
Smelt							16, 608	3, 454
Spot							1, 050	63
Squeteagues	1, 200	120					21, 145	1, 440
Striped bass					500	120	5, 715	933
Sturgeon							25	4
Tautog					36, 168	2, 807	58, 667	3, 867
Tomcod							4, 960	161
Tuna or horse mackerel					11, 250	1, 125	10, 000	960
White perch							1, 266	127
Whiting							158, 705	2, 492
Squid							300, 042	5, 563
Total	2, 400	360	447, 803	25, 164	2, 110, 419	150, 588	1, 522, 443	75, 986

Fisheries of Rhode Island, 1928—Continued

CATCH: BY GEAR—Continued

Species	Floating traps		Fyke nets		Dip nets		Otter trawls	
	Pounds	*Value*	*Pounds*	*Value*	*Pounds*	*Value*	*Pounds*	*Value*
ewives	62,010	$1,360						
uefish	32,808	5,512						
nito	48,500	4,839						
tterfish	745,543	87,899					40	$4
d	307,049	9,254					142,244	5,447
nners	16,080	384			38,750	$1,530	15,300	159
ls	6,435	674	5,000	$600			1,250	100
unders	365,193	32,634	16,100	749			3,854,630	154,978
gate mackerel	5,336	349						
osefish	2,400	48					40,730	859
ayfish	24,344	252					1,155	21
ddock	5,367	210					327,506	8,095
ke	59,982	1,539					11,446	391
libut							376	34
rring, sea	25,490	321						
ckory shad	8,260	475						
ng whiting	2,670	140						
ckerel	1,343,519	58,912						
nhaden	10,400	104						
lock	115,841	6,011					1,617	44
mon	67	23						
ıp	1,936,856	150,632						
bass	55,805	5,578						
robin	428,417	3,927					420	6
ad	5,481	432						
rks	14,810	149						
ates	57,980	930					504,730	7,835
pper or "billfish"	300	105						
elt	110	27						
ot	4,070	280						
ieteagues	47,567	3,033						
iped bass	35,372	4,999						
rgeon	100	15						
ıtog	37,863	3,072	14,850	742			420	25
mcod	420	8						
na or horse mackerel	6,208	594						
itebait	300	105						
ite perch	210	21						
iting	1,216,711	18,485					1,800	36
lffish							165	5
osters							200	56
iid	2,010,562	31,559						
Total	9,046,436	434,891	35,950	2,091	38,750	1,530	4,904,029	178,095

Species	Pots						Harpoons, swordfish		Spears	
	Eel		Lobster		Periwinkle and cockle					
	Pounds	*Value*	*Pounds*	*Value*	*Pounds*	*Value*	*Pounds*	*Value*	*Pounds*	*Valu*
s	151,940	$17,532							8,500	$1,150
ordfish							774,324	$139,428		
ıtog			500	$40						
na or horse mackerel							15,360	1,280		
abs, hard			274,667	8,868						
osters			1,637,459	357,047						
iwinkles			420	84	6,300	$1,260				
Total	151,940	17,532	1,913,046	366,039	6,300	1,260	789,684	140,708	8,500	1,150

Species	Dredges				Tongs		Rakes		Hoes	
	Oyster		Scallop							
	Pounds	*Value*	*Pounds*	*Value*	*Pounds*	*Value*	*Pounds*	*Value*	*Pounds*	*Value*
ms, hard, public	17,680	$6,630			391,792	$145,656	130,304	$47,324		
ms, soft, public							13,280	2,856	550	$110
ssels	130,000	1,300								
sters, market, public					1,400	400				
sters, market, private	2,920,197	655,659			2,800	800				
sters, seed, private	323,946	40,777								
llops, bay	600	400	42,270	$28,188						
llops, sea			29,970	9,990						
Total	3,392,423	704,766	72,240	38,178	395,992	146,856	143,584	50,180	550	110

Fisheries of Rhode Island, 1928—Continued

OPERATING UNITS: BY COUNTIES

Items	Bristol	Kent	Newport	Providence	Washington
	Number	*Number*	*Number*	*Number*	*Number*
Fishermen:					
On vessels	26	4	164	45	24
On boats and shore—					
Regular	42	119	393	36	141
Casual	19	92	60	43	51
Total	87	215	617	124	216
Vessels:					
Steam—					
5 to 10 tons			3		
11 to 20 tons			2		
21 to 30 tons				1	
41 to 50 tons			1	1	
51 to 60 tons				1	
61 to 70 tons				1	
Total			6	4	
Net tonnage			94	191	
Motor—					
5 to 10 tons	3	1	36	2	7
11 to 20 tons	4	1	11	1	3
21 to 30 tons	1		2		
51 to 60 tons				1	
Total	8	2	49	4	10
Net tonnage	110	18	457	86	89
Total vessels	8	2	55	8	10
Total net tonnage	110	18	551	277	89
Boats:					
Motor	30	140	219	26	111
Other	34	164	164	37	69
Apparatus:					
Purse seines—					
Menhaden			1		
Yards			400		
Other			7		1
Yards			880		120
Haul seines, common	1		10	2	2
Yards	100		980	200	205
Gill nets—					
Drift			246		
Square yards			96, 422		
Anchor					8
Square yards					1, 200
Runaround					1
Square yards					12, 000
Lines—					
Trawl			426		44
Hooks			23, 640		3, 800
Hand	4	1	157	10	52
Hooks	8	1	161	10	52
Pound nets		1	43		20
Floating traps			41		17
Fyke nets		50			13
Dip nets	2		11		
Otter trawls	1		56	1	19
Yards at mouth	20		1, 519	15	467
Pots—					
Eel	75	210	470	95	715
Lobster	2, 440	1, 085	23, 210	600	9, 590
Periwinkle and cockle	150		150		
Harpoons, swordfish			40	2	5
Spears	4	6	19	8	1
Dredges—					
Oyster	16	3		12	4
Yards at mouth	22	4		18	6
Scallop	12	175	26	5	72
Yards at mouth	9	136	33	4	56
Tongs	21	125	15	22	26
Rakes	3	30	29	27	4
Hoes		3			

Fisheries of Rhode Island, 1928—Continued

CATCH: BY COUNTIES

Species	Bristol		Kent		Newport		Providence		Washington	
	Pounds	*Value*	*Pounds*	*Value*	*Pounds*	*Value*	*Pounds*	*Value*	*Pounds*	*Value*
Alewives					114, 570	$2, 310			46, 840	$1, 045
Bluefish					30, 838	5, 268			4, 540	633
Bonito					44, 710	4, 460			4, 240	424
Butterfish					810, 593	96, 205			118, 350	12, 267
Cod	2, 210	$131			2, 026, 492	103, 562	41, 000	$2, 870	187, 287	12, 426
Cunners	2, 000	60			42, 155	1, 622			32, 100	516
Eels	8, 000	1, 228	15, 200	$1, 976	104, 010	10, 146	19, 920	2, 755	106, 670	11, 754
Flounders	5, 850	468	11, 600	715	3, 394, 210	140, 461	2, 000	160	987, 282	57, 979
Frigate mackerel					3, 936	236			1, 400	113
Goosefish					11, 640	233			31, 490	674
Grayfish					2, 175	39			25, 424	255
Haddock					574, 005	17, 091			2, 782	103
Hake					79, 455	3, 249			33, 022	468
Halibut					376	34				
Herring, sea	1, 500	30			208, 540	4, 110			11, 400	121
Hickory shad					1, 760	135			7, 830	422
King whiting					175	17			2, 780	139
Mackerel					2, 443, 799	148, 032			252, 400	10, 712
Menhaden					1, 703, 600	17, 036			23, 050	231
Pollock					152, 900	8, 103			13, 851	414
Salmon					12	12			80	16
Scup					1, 825, 491	146, 093			177, 875	10, 672
Sea bass					66, 470	6, 644			5, 580	558
Sea robin					335, 147	2, 958			133, 000	1, 330
Shad					3, 391	135			2, 290	318
Sharks					7, 900	79			8, 900	84
Skates					400, 930	7, 378	4, 000	30	215, 900	2, 227
Skipper or "bill-fish"					300	105				
Smelt					2, 758	689			13, 960	2, 792
Spot					1, 050	125			4, 070	218
Squeteagues					33, 462	2, 137			36, 670	2, 473
Striped bass					19, 707	2, 335			24, 640	4, 545
Sturgeon					100	15			25	4
Suckers									32	3
Swordfish					711, 951	127, 747	9, 348	1, 210	53, 025	10, 471
Tautog	4, 700	376	17, 150	927	80, 700	5, 660	1, 600	125	49, 718	3, 914
Tomcod					3, 230	93			2, 150	76
Tuna or horse mackerel					40, 818	3, 759			2, 000	200
Whitebait					300	105				
White perch					1, 260	126			686	144
Whiting					1, 220, 316	19, 434			156, 900	1, 579
Wolffish					165	5				
Crabs, hard	230, 000	7, 528			44, 667	1, 340				
Lobsters	50, 550	15, 165	21, 300	6, 008	1, 050, 309	186, 176	13, 200	3, 960	502, 300	145, 794
Squid					1, 463, 104	24, 997			847, 500	12, 125
Clams, hard, public	61, 200	22, 950	329, 064	122, 389	78, 712	27, 721	31, 720	11, 895	39, 080	14, 655
Clams, soft, public	1, 300	260	550	110	2, 000	600	9, 100	1, 820	880	176
Mussels							70, 000	700	60, 000	600
Oysters, market, public									1, 400	400
Oysters, market, private	864, 906	191, 087	28, 000	8, 000			1, 572, 291	363, 572	457, 800	93, 800
Oysters, seed, private							323, 946	40, 777		
Periwinkles	3, 500	700			3, 220	644				
Scallops, bay	3, 000	2, 200	33, 192	21, 380	1, 470	1, 102	360	270	4, 848	3, 636
Scallops, sea					29, 970	9, 990				
Total	1, 238, 716	242, 183	456, 056	161, 505	19, 178, 849	1, 140, 553	2, 098, 485	430, 144	4, 694, 047	423, 506

INDUSTRIES RELATED TO THE FISHERIES

Transporting trade.—In 1928 there were 34 persons in Rhode Island engaged primarily in transporting the catch of fish. In this trade 1 steam vessel and 10 motor vessels, having a combined capacity of 197 net tons, were operated. The size of vessel in most popular use ranged from 5 to 10 net tons.

Wholesale trade.—There were 31 wholesale establishments in Rhode Island engaged chiefly in handling fresh and frozen fishery products.

This is 10 per cent of the total number of such establishments in the New England section. They employed 313 persons who received $291,648 in salaries and wages.

Prepared and by-products trade.—There were two establishments in Rhode Island engaged primarily in the manufacture of the prepared fishery products or by-products. This is 1 per cent of the total number in the New England section. They employed 68 persons who received $50,279 in salaries and wages. The products manufactured, consisting of clam products, oyster-shell products, and cured fish, were valued at $348,299. Detailed statistics of most of the items may be obtained from "Fishery Industries of the United States, 1928," Bureau of Fisheries Document No. 1067.

Industries related to the fisheries of Rhode Island, 1928

TRANSPORTING

Items	Number
Men on transporting vessels	34
Transporting vessels	
Steam	1
Net tonnage	49
Motor—	
5 to 10 tons	6
11 to 20 tons	3
51 to 60 tons	1
Total	10
Net tonnage	148
Total vessels	11
Total net tonnage	197

WHOLESALE FISHERY TRADE

Items	Bristol County	Kent County	Newport and Washington Counties	Providence County	Total
Establishments	7	6	13	5	31
Persons engaged:					
Proprietors	6	7	16	8	37
Salaried employees	10	3	10	8	31
Wage earners	68	16	65	96	245
Paid to salaried employees	$18,482	$4,060	$26,626	$43,029	$92,197
Paid to wage earners	51,320	23,384	56,599	68,148	199,451
Total salaries and wages	69,802	27,444	83,225	111,177	291,648

PREPARED FISHERY PRODUCTS AND BY-PRODUCTS

Items	Number	Products	Value
Establishments	2	Miscellaneous products [1]	$348,299
Persons engaged:			
Proprietors	2		
Salaried employees	3		
Wage earners	63		
Paid to salaried employees	$18,300		
Paid to wage earners	31,979		
Total salaries and wages	50,279		

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[1] Includes clam chowder, lime, poultry grit, and salted and smoked fish. Since this item includes salted and smoked fish and oyster-shell products prepared by three firms whose activities were principally in the wholesale fishery trade, data on persons engaged, salaries, and wages are included under that section.

CONNECTICUT

Connecticut in 1928 employed 12 per cent of the total number of fishermen and accounted for 12 per cent of the total catch of the New England section. The fisheries and industries related to the fisheries employed 2,499 persons, which is 49 per cent greater than the number in 1924—the most recent year for which comparable data are available. Of the total, 2,000 were fishermen, 7 were employed on transporting vessels, 213 in the wholesale trade, and 279 in the prepared-products and by-products industries.

The total catch amounted to 72,198,284 pounds, valued at $3,296,611. This is an increase of 180 per cent in the catch and 64 per cent in the value of the catch as compared with the catch and its value for 1924. The large increases in Connecticut are accounted for by the fact that a large packing plant was established in Connecticut in the fall of 1927 and now diverts a large portion of the catch which formerly was landed in New York City. Of the total value of the catch, that for haddock accounted for 44 per cent; oysters, 23 per cent; lobsters, 7 per cent; and cod, 4 per cent. Of the total production that of haddock accounted for 66 per cent; flounders, 11 per cent; oysters, 7 per cent; cod, 6 per cent; and menhaden, 5 per cent.

OPERATING UNITS BY GEAR

The catch of fishery products along the coast of Connecticut during 1928 was taken by 2,000 fishermen who used 25 steam vessels, 91 motor vessels, 5 sailing vessels, 1,038 motor and other small fishing boats, and 16 major types of gear. The vessels had a combined capacity of 5,566 net tons.

The fisheries accounting for the greatest number of persons were the otter-trawl fishery, employing 736 fishermen and the lobster-pot fishery, employing 380 fishermen.

CATCH BY GEAR

Two types of gear accounted for 90 per cent of the fish taken in the marine fisheries of Connecticut during 1928. Otter trawls were by far the most important of these accounting for 83 per cent of the catch. Oyster dredges followed with 7 per cent. The catch by otter trawls consisted principally of haddock, flounders, and cod; and that by dredges was exclusively oysters.

OPERATING UNITS BY COUNTIES

New London County was foremost in the number of persons fishing, accounting for 58 per cent of the total. Fairfield County followed with 16 per cent. New London County also led in the number of fishing craft, accounting for 43 per cent of the vessels and 51 per cent of the motor and other small fishing boats. Fairfield County ranked second with 37 per cent of the vessels and 17 per cent of the motor and other small fishing boats.

CATCH BY COUNTIES

Fishing was prosecuted in the marine waters of five counties of Connecticut during 1928. Ranked according to value the fisheries of New London County were by far the most important, accounting for 90 per cent of the total catch and 7 per cent of the total value of the catch. Fairfield County accounted for 5 per cent of the total catch and 14 per cent of the value and New Haven County accounted for 4 per cent of the catch and 14 per cent of the value.

Fisheries of Connecticut, 1928

OPERATING UNITS: BY GEAR

Items	Purse seines		Haul seines, common	Gill nets		Lines	
	Menhaden	Other		Drift	Stake	Trawl	Hand
Fishermen:	*Number*	*Number*	*Number*	*Number*	*Number*	*Number*	*Number*
On vessels	56	40				14	23
On boats and shore—							
Regular		20	42	3	1	60	139
Casual			105	96	10		15
Total	56	60	147	99	11	74	177
Vessels:							
Steam—							
101 to 110 tons	1						
161 to 170 tons	1						
Total	2						
Net tonnage	268						
Motor—							
5 to 10 tons		3					1
11 to 20 tons		2					3
21 to 30 tons		1				1	1
41 to 50 tons		1				1	
Total		7				2	5
Net tonnage		116				69	69
Total vessels	2	7				2	5
Total net tonnage	268	116				69	69
Boats:							
Motor		6	16	34	6	30	98
Other		10	50	22	6		81
Apparatus:							
Number	2	13	85	41	26	11, 100	189
Length, yards	930	850	4, 017				
Square yards				99, 500	3, 300		
Hooks, baits or snoods						555, 000	374

Items	Pound nets	Weirs	Fyke nets	Dip nets	Otter trawls	Box traps	Pots	
							Crab	Eel
Fishermen:	*Number*	*Number*	*Number*	*Number*	*Number*	*Number*	*Number*	*Number*
On vessels					445			
On boats and shore—								
Regular	32	2	8	3	291			64
Casual	1	2	38	49		2	2	36
Total	33	4	46	52	736	2	2	100
Vessels:								
Steam—								
121 to 130 tons					2			
161 to 170 tons					3			
171 to 180 tons					2			
181 to 190 tons					1			
201 to 210 tons					8			
Total					16			
Net tonnage					2, 956			
Motor—								
5 to 10 tons					25			
11 to 20 tons					15			
Total					40			
Net tonnage					394			
Total vessels					56			
Total net tonnage					3, 350			
Boats:								
Motor	14	2	10	4	122	1	1	37
Other	23	2	31	24	20			71
Apparatus:								
Number	25	5	186	48	178	2	60	1, 687
Yards at mouth					2, 020			

Fisheries of Connecticut, 1928—Continued

OPERATING UNITS: BY GEAR—Continued

Items	Pots, lobster	Harpoons, swordfish	Spears	Dredges, oyster	Tongs	Rakes	Total, exclusive of duplication
Fishermen:	*Number*	*Number*	*Number*	*Number*	*Number*	*Number*	*Number*
On vessels	4	28		237			756
On boats and shore—							
Regular	372	24	31	40	28	49	871
Casual	4		14		37	32	373
Total	380	52	45	277	65	81	2,000
Vessels:							
Steam—							
11 to 20 tons				1			1
71 to 80 tons				1			1
91 to 100 tons				1			1
101 to 110 tons				1			2
111 to 120 tons				1			1
121 to 130 tons							2
161 to 170 tons							4
171 to 180 tons							2
181 to 190 tons							1
201 to 210 tons							8
311 to 320 tons				1			1
391 to 400 tons				1			1
Total				7			25
Net tonnage				1,121			4,345
Motor—							
5 to 10 tons	2	3		22			49
11 to 20 tons		3		13			28
21 to 30 tons				8			9
31 to 40 tons				2			2
41 to 50 tons				2			3
Total	2	6		47			91
Net tonnage	13	58		709			1,185
Sail—							
5 to 10 tons				4			4
11 to 20 tons				1			1
Total				5			5
Net tonnage				36			36
Total vessels	2	6		59			121
Total net tonnage	13	58		1,866			5,566
Boats:							
Motor	240	17	19	27	17	3	532
Other	158	1	45	36	56	49	506
Apparatus:							
Number	22,750	18	45	216	65	81	
Yards at mouth				235			

CATCH: BY GEAR

Species	Purse seines				Haul seines, common	
	Menhaden		Other			
	Pounds	*Value*	*Pounds*	*Value*	*Pounds*	*Value*
Alewives					3,850	$75
Carp					2,535	379
Catfish and bullheads					100	5
Eels					1,000	150
Flounders					60	6
Herring, sea					2,800	70
Mackerel			1,118,650	$80,669		
Menhaden	3,414,700	$55,318				
Minnows					16,432	5,128
Mummichog					5,010	623
Shad					55,376	4,971
Smelt					8,470	1,093
Suckers					3,200	238
Total	3,414,700	55,318	1,118,650	80,669	98,833	12,738

Fisheries of Connecticut, 1928—Continued

CATCH: By Gear—Continued

Species	Gill nets				Lines			
	Drift		Stake		Trawl		Hand	
	Pounds	*Value*	*Pounds*	*Value*	*Pounds*	*Value*	*Pounds*	*Value*
Bluefish							5, 145	$1, 509
Butterfish							608	151
Carp			6, 000	$720				
Cod					226, 088	$10, 005	166, 310	8, 667
Eels							4, 560	637
Flounders					30, 900	1, 545	7, 847	568
Haddock					121, 794	4, 922	16, 000	650
Mackerel							145, 350	10, 649
Menhaden			2, 400	44				
Pollock							1, 400	68
Seabass							2, 170	441
Shad	140, 410	$21, 822						
Smelt							110	22
Squeteagues			400	146			500	100
Striped bass	1, 200	300					100	25
Tautog			1, 400	140			77, 343	7, 494
Total	141, 610	22, 122	10, 200	1, 050	378, 782	16, 472	427, 443	30, 981

Species	Pound nets		Weirs		Fyke nets	
	Pounds	*Value*	*Pounds*	*Value*	*Pounds*	*Value*
Alewives	4, 810	$84			7, 000	$140
Bluefish	105	25				
Butterfish	13, 276	1, 373				
Carp					5, 800	641
Catfish and bullheads					1, 100	72
Eels			675	$176	5, 439	1, 608
Flounders	19, 127	1, 773			4, 520	366
Hickory shad	200	30				
Mackerel	4, 900	540				
Menhaden	26, 800	478				
Minnows					1, 275	86
Mummichog			1, 600	500		
Pike					10	2
Salmon	12	6				
Scup	200	4				
Sea robin	10, 600	106				
Skates	39, 000	390				
Smelt	6, 900	920				
Squeteagues	39, 685	10, 238				
Striped bass	2, 517	631				
Sturgeon	25	3				
Suckers					60, 006	4, 365
Tautog	10, 270	1, 035			250	25
White perch					50	4
Yellow perch					55	5
Squid	49, 400	1, 666				
Total	227, 827	19, 302	2, 275	676	85, 505	7, 314

Species	Dip nets		Otter trawls		Box traps	
	Pounds	*Value*	*Pounds*	*Value*	*Pounds*	*Value*
Alewives	20	$1				
Carp					60	$9
Cod			3, 808, 742	$113, 854		
Cusk			75, 024	18, 000		
Flounders			7, 945, 456	352, 619		
Grayfish			10, 500	200		
Haddock			47, 161, 480	1, 454, 739		
Hake			381, 200	6, 352		
Halibut			4, 080	6, 112		
Pollock			289, 025	8, 100		
Sea robin			3, 000	30		
Shad	3, 277	620				
Skates			365, 500	3, 803		
Smelt	1, 311	191				
Sturgeon			177	23		
Suckers	25	2				
Tautog			200	18		
Whiting			1, 200	12		
Crabs, soft	1, 065	400				
Crabs, hard	10, 090	1, 194				
Lobsters			50	18		
Total	15, 788	2, 408	60, 045, 634	1, 963, 880	60	9

Fisheries of Connecticut, 1928—Continued

CATCH: BY GEAR—Continued

Species	Pots					
	Crab		Eel		Lobster	
	Pounds	*Value*	*Pounds*	*Value*	*Pounds*	*Value*
Eels			65, 302	$8, 635		
Crabs, hard	170, 660	$5, 090				
Lobsters					693, 508	$240, 963
Total	170, 660	5, 090	65, 302	8, 635	693, 508	240, 963

Species	Harpoons, swordfish		Spears		Oyster dredges	
	Pounds	*Value*	*Pounds*	*Value*	*Pounds*	*Value*
Eels			16, 790	$2, 349		
Sharks	1, 000	$10				
Swordfish	168, 442	31, 109				
Oysters, market, public					10, 500	$3, 000
Oysters, market, private					839, 804	197, 414
Oysters, seed, public					349, 524	49, 932
Oysters, seed, private					3, 774, 274	514, 034
Total	169, 442	31, 119	16, 790	2, 349	4, 974, 102	764, 380

Species	Tongs		Rakes	
	Pounds	*Value*	*Pounds*	*Value*
Clams, hard, public	9, 824	$3, 694	19, 984	$7, 494
Clams, hard, private			1, 200	450
Clams, soft, public			38, 310	7, 783
Oysters, market, public	3, 150	900	420	180
Oysters, market, private	4, 410	1, 260	1, 750	500
Oysters, seed, public	55, 125	7, 875		
Oysters, seed, private	7, 000	1, 000		
Total	79, 509	14, 729	61, 664	16, 407

OPERATING UNITS: BY COUNTIES

Items	Fairfield	Hartford	Middlesex	New Haven	New London
Fishermen:	*Number*	*Number*	*Number*	*Number*	*Number*
On vessels	147			112	497
On boats and shore—					
Regular	118		68	116	569
Casual	50	118	82	35	88
Total	315	118	150	263	1, 154
Vessels:					
Steam—					
11 to 20 tons				1	
71 to 80 tons	1				
91 to 100 tons	1				
101 to 110 tons				1	1
111 to 120 tons	1				
121 to 130 tons					2
161 to 170 tons					4
171 to 180 tons					2
181 to 190 tons					1
201 to 210 tons					8
311 to 320 tons				1	
391 to 400 tons				1	
Total	3			4	18
Net tonnage	289			832	3, 224

Fisheries of Connecticut, 1928—Continued

OPERATING UNITS: BY COUNTIES—Continued

Items	Fairfield	Hartford	Middlesex	New Haven	New London
	Number	*Number*	*Number*	*Number*	*Number*
Vessels—Continued.					
Motor—					
5 to 10 tons	24	------	------	6	19
11 to 20 tons	6	------	------	9	13
21 to 30 tons	5	------	------	3	1
31 to 40 tons	------	------	------	2	------
41 to 50 tons	2	------	------	------	1
Total	37	------	------	20	34
Net tonnage	483	------	------	321	381
Sail—					
5 to 10 tons	4	------	------	------	------
11 to 20 tons	1	------	------	------	------
Total	5	------	------	------	------
Net tonnage	36	------	------	------	------
Total vessels	45	------	------	24	52
Total net tonnage	808	------	------	1,153	3,605
Boats:					
Motor	84	4	80	73	291
Other	93	32	70	76	235
Apparatus:					
Purse seines—					
Menhaden	------	------	------	------	2
Yards	------	------	------	------	930
Other	------	------	------	------	13
Yards	------	------	------	------	850
Haul seines, common	14	29	7	10	25
Yards	405	2,072	230	180	1,130
Gill nets—					
Drift	------	3	27	------	11
Square yards	------	7,425	66,825	------	25,250
Stake	1	------	12	13	------
Square yards	100	------	1,200	2,000	------
Lines—					
Trawl	------	------	------	------	11,100
Hooks	------	------	------	------	555,000
Hand	12	------	38	13	126
Hooks	24	------	76	26	248
Pound nets	------	------	------	1	24
Weirs	5	------	------	------	------
Fyke nets	4	101	23	1	57
Dip nets	------	22	------	------	26
Otter trawls	15	------	19	17	127
Yards at mouth	215	------	125	355	1,325
Box traps	------	------	2	------	------
Pots:					
Crab	------	------	------	------	60
Eel	115	38	334	143	1,057
Lobster	2,729	------	1,629	2,815	15,577
Harpoons, swordfish	------	------	1	------	17
Spears	------	------	1	4	40
Dredges, oyster	168	------	------	48	------
Yards at mouth	159	------	------	76	------
Tongs	27	------	8	26	4
Rakes	32	------	5	27	17

CATCH: BY COUNTIES

Species	Fairfield		Hartford		Middlesex		New Haven		New London	
	Pounds	*Value*	*Pounds*	*Value*	*Pounds*	*Value*	*Pounds*	*Value*	*Pounds*	*Value*
Alewives	------	------	7,020	$141	2,000	$40	------	------	6,660	$119
Bluefish	------	------	------	------	4,101	1,253	1,044	$256	105	25
Butterfish	------	------	------	------	------	------	1,200	120	12,684	1,404
Carp	------	------	2,300	396	9,060	1,154	------	------	3,035	199
Catfish and bullheads	------	------	------	------	100	5	------	------	1,100	72
Cod	129,835	$7,808	------	------	------	------	------	------	4,071,305	124,718
Cusk	------	------	------	------	------	------	------	------	75,024	18,000
Eels	9,225	1,644	1,019	257	17,505	2,376	8,443	1,223	57,574	8,055
Flounders	600,669	34,110	------	------	95,750	4,610	258,558	12,853	7,052,993	305,304
Grayfish	------	------	------	------	------	------	------	------	10,500	200
Haddock	78,900	4,092	------	------	------	------	------	------	47,220,374	1,456,219
Hake	------	------	------	------	------	------	------	------	381,200	6,352

Fisheries of Connecticut, 1928—Continued

CATCH: BY COUNTIES—Continued

Species	Fairfield		Hartford		Middlesex		New Haven		New London	
	Pounds	*Value*	*Pounds*	*Value*	*Pounds*	*Value*	*Pounds*	*Value*	*Pounds*	*Value*
Halibut									4,080	$6,112
Herring, sea	2,800	$70								
Hickory shad									200	30
Mackerel	200	20							1,268,700	91,838
Menhaden							4,400	$64	3,439,500	55,776
Minnows	7,220	1,461	4,451	$1,586	4,150	$1,508	608	569	1,278	90
Mummichog	1,600	500			1,950	405	60	6	3,000	212
Pike									10	2
Pollock					721	36			289,704	8,132
Salmon									12	6
Scup									200	4
Seabass							50	12	2,120	429
Sea robin									13,600	136
Shad			59,203	5,694	110,564	16,762			29,296	4,957
Sharks									1,000	10
Skates					47,000	470	7,000	70	350,500	3,653
Smelt									16,791	2,226
Squeteagues					500	100	2,400	326	37,685	10,058
Striped bass	100	25							3,717	931
Sturgeon					100	10			102	16
Suckers			32,828	2,402	22,223	1,698	400	40	7,780	465
Swordfish					1,642	365			166,800	30,744
Tautog	1,498	168			12,547	1,301	9,650	1,013	65,768	6,230
White perch									50	4
Whiting									1,200	12
Yellow perch									55	5
Crabs, hard									180,750	6,284
Crabs, soft									1,065	400
Lobsters	55,556	26,837			40,725	16,496	97,094	42,940	500,183	154,708
Squid									49,400	1,666
Clams, hard, public	14,240	5,340					14,400	5,400	1,168	448
Clams, hard, private	1,200	450								
Clams, soft, public	16,750	3,350			850	170	18,050	3,610	2,660	653
Oysters, market, public	10,500	3,000			2,100	600	1,050	300	420	180
Oysters, market, private	522,536	106,766					323,428	92,408		
Oysters, seed, public	365,974	52,282			12,600	1,800	26,075	3,725		
Oysters, seed, private	1,674,666	214,090					2,106,608	300,944		
Total	3,493,469	462,013	106,821	10,476	386,188	51,159	2,880,518	465,879	65,331,288	2,307,084

INDUSTRIES RELATED TO THE FISHERIES

Transporting trade.—In 1928 there were seven persons in Connecticut engaged primarily in transporting the catch of fish. In this trade five motor vessels having a capacity of 75 net tons were operated. The size of vessel in popular use ranged from 5 to 10 net tons.

Wholesale trade.—There were 18 wholesale establishments along the coast of Connecticut engaged chiefly in handling fresh and frozen products. This is 6 per cent of the total number of such establishments in the New England section. These establishments employed 213 persons, who received $340,413 in salaries and wages. These establishments were confined to three counties, New Haven having 7; New London, 6; and Fairfield, 5.

Prepared and by-products trade.—There were three establishments along the coast of Connecticut engaged primarily in the manufacture of prepared canned and cured fishery products or by-products. This is 2 per cent of the total number in the New England section. They employed 279 persons who received $331,320 in salaries and wages. The products manufactured, consisting entirely of menhaden products and fishery by-products, were valued at $704,900. Detailed statistics of most of the items manufactured may be obtained from "Fishery Industries of the United States, 1928," Bureau of Fisheries Document No. 1067.

Industries related to the fisheries of Connecticut, 1928

TRANSPORTING

Items	Number	Items	Number
Men on transporting vessels	7	Transportating vessels—Con.	
Transporting vessels:		Motor—Con.	
Motor—		31 to 40 tons	1
5 to 10 tons	3	Total vessels	5
11 to 20 tons	1	Total net tonnage	75

WHOLESALE FISHERY TRADE

Items	Fairfield County	New Haven County	New London County	Total
Establishments	5	7	6	18
Persons engaged:				
Proprietors	7	8	2	17
Salaried employees	4	4	6	14
Wage earners	133	20	29	182
Paid to salaried employees	$22,500	$23,872	$20,449	$66,821
Paid to wage earners	205,140	26,460	41,992	273,592
Total salaries and wages	227,640	50,332	62,441	340,413

PREPARED FISHERY PRODUCTS AND BY-PRODUCTS

Items	Number	Products	Value
Establishments	3	Miscellaneous products [1]	$280,274
Persons engaged:			
Proprietors	3		
Salaried employees	20		
Wage earners	256		
Paid to salaried employees	$53,222		
Paid to wage earners	278,098		
Total salaries and wages	331,320		

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[1] Includes menhaden products, fish meal from ground fish, cod-liver oil and oyster-shell products. Since this item includes oyster-shell products prepared by one firm whose activities were principally in the wholesale fishery trade, data on persons engaged, salaries and wages are included under that section.

HISTORICAL REVIEW

Eleven general surveys have been made for statistics of the fisheries of the New England States during the 48 years from 1880 to 1928. These have not been as frequent as might be desired, but a rather clear picture of the trend of the fisheries in this district is obtainable from the records, which are published in comparable form in the following pages. Those years for which statistical surveys have been made are used as a basis for the following discussions. It should be borne in mind, however, that in certain of those years when surveys were not made there may have been unusual fluctuations for certain species. In some of the surveys prior to 1889 the fisheries of certain States were not canvassed, and in certain of the States that were canvassed several of the species were included with "miscellaneous fish," or "all other species." For this reason totals are not usually shown prior to 1889.

COMPARISON OF CATCH RECORDS

Total catch.—The most recent records for the New England States, which are for the year 1928, show a larger catch than in any year during the period 1880 to 1928. The catch in 1887 amounted to 520,214,000 pounds, it decreased to 393,458,000 in 1898, but in 1928 rose to 603,598,000 pounds.

Alewives.—The catch of alewives in 1928 was less than in any year for which there are records, amounting to 4,557,000 pounds. The largest catch was registered in 1896 when 12,116,000 pounds were taken.

Butterfish.—The catch of butterfish in recent years has exceeded that in earlier years, in 1928 being greater than for any year on record, amounting to 1,549,000 pounds. The smallest catch recorded was that made in 1905, and amounted to only 451,000 pounds.

Cod.—The first available figures on the catch of cod are those for 1887 when 207,458,000 pounds were taken. The trend since then has been downward, and no catch has been as great. The production in 1928 amounted to 90,336,000 pounds.

Cusk.—The catch of cusk in 1887 amounted to 1,120,000 pounds which is the smallest on record. The largest catch was registered in 1905 when 9,609,000 pounds were taken. That in 1928 amounted to 3,230,000 pounds.

Flounders.—Beginning with a catch of 2,480,000 pounds in 1887, the production has constantly increased, and in 1928 amounted to 50,274,000 pounds.

Haddock.—By far the largest catch of haddock was made in 1928 when 237,708,000 pounds were taken. In no other year for which there are records had the catch amounted to as much as 100,000,000 pounds. The smallest catch registered was made in 1887, when 40,806,000 pounds were taken.

Hake.—Beginning with a catch of 20,333,000 pounds in 1887, the trend in this species was upward until 1898 when 39,824,000 pounds were taken. Since then the trend has been almost constantly downward and in 1928 amounted to 17,506,000 pounds.

Halibut.—During the period 1887 to 1902 the catch of halibut varied between 11,000,000 and 14,000,000 pounds. Since then no catch has amounted to as much as 5,000,000 pounds. The catch in 1928 amounted to 4,257,000 pounds.

Herring.—Considerable fluctuation in the catch of herring has been noted. The smallest catch was made in 1887, amounting to 42,817,000 pounds. The largest catch on record was made in 1902 when 200,598,000 pounds were taken. That in 1928 amounted to 70,555,000 pounds.

Mackerel.—The erratic appearance of mackerel in New England waters is reflected in the large variations in the catch throughout the period under review. The catch in 1887 amounted to 33,099,000 pounds; that in 1898, 9,881,000 pounds; and that in 1928, which is the largest catch on record, amounted to 42,722,000 pounds.

Menhaden.—Reaching a peak of 173,803,000 pounds in 1889 the trend of the menhaden fisheries has been downward and in 1928 the smallest catch on record was registered, amounting to 5,175,000 pounds.

Pollock.—The smallest catch of pollock on record was made in 1887, amounting to 6,645,000 pounds. Almost constant increases were made until 1905 when the catch amounted to 29,556,000 pounds. In 1928 the production decreased to 11,039,000 pounds.

Scup.—The largest catch of scup was made in 1889, amounting to 8,572,000 pounds. The smallest catch was registered in 1924 when 1,352,000 pounds were taken. A recovery was effected in 1928 when the catch amounted to 2,859,000 pounds.

Skates.—The first available records on the catch of skates are for 1905. The catch in that year amounted to 26,000 pounds. Since then this fishery has constantly expanded, and in 1928 the catch amounted to 1,058,000 pounds.

Smelt.—During the period of 1887 to 1902 the catch of smelt consistently exceeded 1,100,000 pounds, and 1892 reached a peak of 1,698,000 pounds. Since 1902 no catch has been as great as 1,000,000 pounds. However, that in 1928 amounted to 903,000 pounds.

Swordfish.—The smallest catch of swordfish that has been recorded was made in 1887, amounting to 685,000 pounds. The trend has been generally upward and in 1928 the largest catch on record was made, amounting to 4,366,000 pounds.

Whiting.—In 1887 only 47,000 pounds of this species were taken. By 1919 it amounted to 16,203,000 pounds. However, in 1928 the catch decreased and amounted to 8,378,000 pounds.

Crabs.—The crab fishery in New England prior to 1908 was not of great importance, the catch at no time exceeding 88,000 pounds. Since 1908, however, the catch has increased rapidly and in 1928 amounted to 3,755,000 pounds, which is by far the largest on record.

Lobsters.—The trend of the lobster fishery has been downward. The largest catch during the period under review was made in 1889, when 30,450,000 pounds were taken. By 1928 the catch decreased to 11,604,000 pounds.

Squid.—The trend of this fishery has been generally upward. In 1888, 486,000 pounds were taken. In 1928 the catch had increased to 7,927,000 pounds, which is the largest on record.

Hard clams.—Almost constant increases in the catch of hard clams have been reported since 1887. In that year the catch amounted to only 590,000 pounds of meat, while in 1928, 2,232,000 pounds were taken.

Soft clams.—The largest catch of soft clams was taken in 1889 and amounted to 11,542,000 pounds of meat. The catch in 1928 amounted to 5,470,000 pounds.

Oysters.—The catch of oysters in 1928 amounted to 9,373,000 pounds of meat. This is by far the smallest catch on record. The largest catch was registered in 1910, when 41,594,000 pounds were taken.

Scallops.—The scallop fishery in 1888 produced 342,000 pounds of meat and was the smallest catch on record. The largest catch was made in 1908 and amounted to 1,763,000 pounds. That in 1928 was but little less than this peak year and amounted to 1,753,000 pounds.

Considered in general terms over the period reviewed the catches of butterfish, flounders, haddock, mackerel, skates, swordfish, whiting, crabs, squid, hard clams, and scallops have increased; the catches of cusk, herring, pollock, smelt, and soft clams have remained fairly constant; and the catches of alewives, cod, hake, halibut, menhaden, scup, lobsters, and oysters have decreased.

Fisheries of the New England States, 1879 to 1928

CATCH OF CERTAIN SPECIES: BY STATES

[Expressed in thousands of pounds; that is, 000 omitted]

Year	Alewives						Butterfish				
	Maine	New Hampshire	Massachusetts	Rhode Island	Connecticut	Total	Maine	Massachusetts	Rhode Island	Connecticut	Total
1879	(1)	(1)	3,751	(1)	(1)	--------	(1)	5	(1)	(1)	------
1880	(1)	425	(1)	2,978	770	--------	(1)	(1)	(1)	(1)	------
1887	2,526	100	4,130	1,430	18	8,204	5	504	266	24	799
1888	2,836	147	6,292	1,589	25	10,889	(1)	513	283	38	------
1889	4,022	140	3,911	1,387	53	9,513	27	763	267	42	1,099
1892	2,276	50	3,651	1,190	681	7,848	(1)	(1)	(1)	(1)	------
1896	3,388	294	5,356	2,077	1,001	12,116	(1)	(1)	(1)	(1)	------
1897 (fiscal)	1,249	239	4,779	(1)	(1)	--------	(1)	(1)	(1)	(1)	------
1898	3,619	325	2,900	1,012	868	8,724	15	31	207	60	------
1902	3,341	475	4,517	705	1,663	10,701	8	106	363	67	544
1905	3,082	122	4,861	599	1,232	9,896	6	83	341	21	451
1908	2,085	121	4,062	288	1,025	7,581	6	67	1,112	102	1,287
1919	1,296	--------	3,064	270	177	4,807	33	297	758	19	1,107
1924	1,583	--------	2,593	391	116	4,683	12	378	685	6	1,081
1928	2,132	--------	2,248	161	16	4,557	25	580	930	14	1,549

Year	Cod						Cusk				
	Maine	New Hampshire	Massachusetts	Rhode Island	Connecticut	Total	Maine	New Hampshire	Massachusetts	Connecticut	Total
1879	(1)	(1)	172,217	(1)	(1)	--------	(1)	(1)	989	(1)	------
1880	56,004	5,448	(1)	2,584	2,738	--------	(1)	38	(1)	--------	------
1887	45,020	2,156	157,672	370	2,240	207,458	676	--------	444	--------	1,120
1888	40,252	1,501	152,166	360	2,001	196,280	715	--------	696	--------	1,411
1889	29,017	1,569	131,578	429	1,530	164,123	675	34	1,230	--------	1,939
1897 (fiscal)	11,487	490	105,644	(1)	(1)	--------	1,168	63	3,194	(1)	------
1898	20,556	693	101,999	1,742	451	125,441	1,312	98	6,082	--------	7,492
1902	23,878	442	98,384	690	211	123,605	2,651	20	3,049	--------	5,720
1905	12,261	342	79,537	1,097	555	93,792	1,675	--------	7,934	--------	9,609
1908	20,013	135	72,819	1,497	820	95,284	2,078	--------	4,267	--------	6,345
1919	15,062	98	72,672	1,148	96	89,076	1,046	2	1,595	7	2,650
1924	22,443	98	69,014	1,357	539	93,451	1,569	1	2,716	--------	4,286
1928	16,187	25	67,666	2,257	4,201	90,336	960	10	2,185	75	3,230

Year	Flounders						Haddock					
	Maine	New Hampshire	Massachusetts	Rhode Island	Connecticut	Total	Maine	New Hampshire	Massachusetts	Rhode Island	Connecticut	Total
1879	(1)	(1)	571	(1)	(1)	--------	(1)	(1)	24,093	(1)	(1)	--------
1880	(1)	(1)	(1)	352	143	--------	17,729	644	(1)	(1)	(1)	--------
1887	659	--------	841	426	554	2,480	8,901	1,020	30,524	96	265	40,806
1888	829	--------	853	558	542	2,782	8,659	1,079	36,810	96	244	46,888
1889	829	--------	958	530	634	2,951	7,809	1,650	36,003	124	206	45,792
1897 (fiscal)	(1)	(1)	(1)	(1)	(1)	--------	6,112	302	33,156	(1)	(1)	------
1898	787	--------	1,168	1,710	444	4,109	9,188	1,388	35,711	367	113	46,767
1902	569	--------	2,596	1,135	509	4,809	7,364	159	39,812	506	189	48,030
1905	97	--------	4,046	1,143	477	5,763	8,785	63	67,975	516	294	77,633
1908	31	--------	7,124	1,891	707	9,753	10,513	100	48,492	415	24	59,544
1919	470	8	10,262	2,452	2,349	15,541	11,271	19	78,553	10	(2)	89,853
1924	343	--------	22,997	3,099	4,416	30,855	15,559	144	77,684	134	49	93,570
1928	1,175	4	36,686	4,401	8,008	50,274	12,204	50	177,578	577	47,299	237,708

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[1] Not available. Prior to 1889 some of these species were included under "Miscellaneous fish" or "All other species."

[2] Less than 500 pounds.

Fisheries of the New England States, 1879 to 1928—Continued

CATCH OF CERTAIN SPECIES: BY STATES—Continued

[Expressed in thousands of pounds; that is, 000 omitted]

Year	Hake						Halibut					
	Maine	New Hampshire	Massachusetts	Rhode Island	Connecticut	Total	Maine	New Hampshire	Massachusetts	Rhode Island	Connecticut	Total
1879	(1)	(1)	8, 438	(1)	(1)	-------	(1)	(1)	14, 206	(1)	(1)	------
1880	24, 448	398	(1)	(1)	(1)	-------	(1)	25	(1)	(1)	830	------
1887	14, 060	200	6, 071	-------	2	20, 333	627	156	10, 367	-------	472	11, 622
1888	14, 948	229	5, 809	-------	2	20, 988	551	143	11, 882	-------	351	12, 927
1889	13, 333	447	7, 209	-------	1	20, 990	501	88	10, 862	-------	265	11, 716
1897 (fiscal)	9, 290	316	11, 093	(1)	(1)	-------	272	5	11, 861	(1)	(1)	------
1898	18, 141	118	21, 565	-------	-------	39, 824	305	-------	12, 383	-------	-------	12, 688
1902	20, 726	49	14, 836	-------	-------	35, 611	210	-------	13, 366	-------	-------	13, 576
1905	15, 309	21	21, 092	-------	2	36, 424	118	-------	3, 989	-------	85	4, 192
1908	17, 398	13	16, 781	2	-------	34, 194	200	-------	4, 146	-------	8	4, 354
1919	16, 118	3	4, 125	-------	10	20, 256	219	-------	1, 725	-------	25	1, 969
1924	11, 724	25	6, 740	38	3	18, 530	142	(2)	4, 361	-------	-------	4, 503
1928	7, 681	10	9, 322	112	381	17, 506	191	-------	4, 062	(2)	4	4, 257

Year	Herring						Mackerel					
	Maine	New Hampshire	Massachusetts	Rhode Island	Connecticut	Total	Maine	New Hampshire	Massachusetts	Rhode Island	Connecticut	Total
1879	(1)	(1)	7, 795	(1)	(1)	-------	(1)	(1)	61, 423	(1)	(1)	-------
1880	34, 695	109	(1)	(1)	(1)	-------	31, 694	2, 573	(1)	89	1, 304	-------
1887	33, 570	228	9, 019	-------	-------	42, 817	5, 568	211	26, 255	943	122	33, 099
1888	40, 802	358	11, 371	-------	-------	52, 531	2, 087	115	16, 799	647	61	19, 709
1889	32, 156	20	10, 937	-------	-------	43, 113	1, 176	55	8, 222	704	55	10, 212
1890	(1)	(1)	(1)	-------	-------	-------	3, 514	108	6, 984	339	-------	10, 945
1891	(1)	(1)	(1)	-------	-------	-------	6, 988	68	11, 939	274	93	19, 362
1892	40, 814	147	12, 103	1	-------	53, 065	5, 072	59	16, 038	227	99	21, 495
1897 (fiscal)	45, 667	220	10, 482	(1)	(1)	-------	2, 674	91	14, 385	(1)	(1)	-------
1898	46, 596	65	19, 463	2	-------	66, 126	1, 661	59	7, 722	360	79	9, 881
1902	165, 136	100	35, 362	-------	-------	200, 598	1, 840	100	20, 300	616	300	23, 156
1905	65, 926	40	19, 920	-------	-------	85, 886	917	17	15, 964	838	147	17, 883
1908	92, 985	-------	28, 501	214	-------	121, 700	380	-------	10, 453	537	122	11, 492
1919	86, 979	-------	10, 811	170	3	97, 963	604	-------	13, 954	1, 576	91	16, 225
1924	47, 930	-------	13, 180	507	(2)	61, 617	2, 310	-------	22, 108	2, 381	304	27, 103
1928	64, 685	-------	5, 646	221	3	70, 555	1, 596	-------	37, 161	2, 696	1, 269	42, 722

Year	Menhaden						Pollock					
	Maine	New Hampshire	Massachusetts	Rhode Island	Connecticut	Total	Maine	New Hampshire	Massachusetts	Rhode Island	Connecticut	Total
1879	(1)	(1)	26, 066	(1)	(1)	-------	(1)	(1)	4, 754	(1)	(1)	-------
1880	(1)	(1)	(1)	68, 694	65, 092	-------	(1)	76	(1)	(1)	20	-------
1887	702	-------	543	34, 035	42, 049	77, 329	2, 684	64	3, 781	102	14	6, 645
1888	3, 125	21	4, 968	78, 270	43, 966	130, 350	3, 375	38	5, 006	101	14	8, 534
1889	10, 185	501	2, 546	112, 580	47, 991	173, 803	4, 256	7	7, 046	103	17	11, 429
1892	83	4	250	10, 761	22, 947	34, 045	(1)	(1)	(1)	(1)	(1)	-------
1897 (fiscal)	229	20	1, 106	(1)	(1)	-------	2, 378	158	7, 330	(1)	(1)	-------
1898	7, 860	-------	1, 497	3, 140	11, 183	23, 680	3, 132	183	7, 601	50	-------	10, 966
1902	252	-------	875	471	16, 877	18, 475	6, 419	158	13, 439	30	4	20, 050
1905	-------	-------	1, 027	1, 026	29, 731	31, 784	3, 363	105	25, 791	291	6	29, 556
1908	-------	-------	258	17, 942	28, 636	46, 836	8, 941	6	20, 006	266	25	29, 244
1919	-------	-------	161	21, 536	6, 737	28, 434	5, 667	26	19, 293	99	10	25, 095
1924	1	-------	522	1, 743	5, 270	7, 536	2, 878	4	5, 360	116	48	8, 406
1928	-------	-------	4	1, 727	3, 444	5, 175	2, 876	5	7, 701	167	290	11, 039

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[1] Not available. Prior to 1889 some of these species were included under "Miscellaneous fish" or "All other species."

[2] Less than 500 pounds.

Fisheries of the New England States, 1879 to 1928—Continued

CATCH OF CERTAIN SPECIES: BY STATES—Continued

[Expressed in thousands of pounds, that is, 000 omitted]

Year	Scup				Skates				
	Massachusetts	Rhode Island	Connecticut	Total	Maine	Massachusetts	Rhode Island	Connecticut	Total
1879	1,022	(1)	(1)	--------	(1)	(1)	(1)	(1)	--------
1880	(1)	6,691	930	--------	(1)	(1)	(1)	(1)	--------
1887	2,322	3,030	2	5,354	--------	--------	--------	--------	--------
1888	1,786	4,208	2	5,996	--------	--------	--------	--------	--------
1889	2,501	6,064	7	8,572	--------	--------	--------	--------	--------
1898	1,044	6,390	101	7,535	--------	--------	--------	--------	--------
1902	589	6,834	396	7,819	--------	--------	--------	--------	--------
1905	1,019	5,540	28	6,587	25	1	--------	--------	26
1908	1,136	4,616	95	5,847	--------	93	--------	--------	93
1919	79	8,261	2	8,342	2	101	--------	(2)	103
1924	158	1,192	2	1,352	--------	41	14	(2)	55
1928	855	2,004	(2)	2,859	(2)	33	621	404	1,058

Year	Smelt						Swordfish					
	Maine	New Hampshire	Massachusetts	Rhode Island	Connecticut	Total	Maine	New Hampshire	Massachusetts	Rhode Island	Connecticut	Total
1879	(1)	(1)	35	(1)	(1)	-------	(1)	(1)	732	(1)	(1)	------
1880	(1)	(1)	(1)	95	27	-------	(1)	20	(1)	90	74	------
1887	1,204	36	12	55	9	1,316	235	14	231	101	104	685
1888	1,279	36	11	62	10	1,398	442	43	264	217	181	1,147
1889	1,055	46	11	84	13	1,209	635	32	262	166	146	1,241
1892	1,617	31	3	38	9	1,698	-------	(1)	-------	(1)	(1)	------
1897 (fiscal)	(1)	(1)	(1)	(1)	(1)	-------	985	6	490	(1)	(1)	------
1898	1,608	--------	7	4	6	1,625	879	--------	624	56	86	1,645
1902	1,125	--------	--------	11	3	1,139	643	4	750	127	166	1,690
1905	589	--------	7	6	17	619	780	--------	1,703	362	451	3,206
1908	654	3	16	1	10	684	513	--------	1,642	308	240	2,703
1919	524	--------	39	-------	25	588	425	--------	712	101	88	1,326
1924	627	4	38	8	11	688	863	--------	1,733	206	80	2,882
1928	832	5	32	17	17	903	693	--------	2,731	774	168	4,366

Year	Whiting						Crabs					
	Maine	New Hampshire	Massachusetts	Rhode Island	Connecticut	Total	Maine	New Hampshire	Massachusetts	Rhode Island	Connecticut	Total
1887	-------	-------	45	-------	2	47	-------	--------	-------	5	83	88
1888	-------	-------	70	-------	17	87	-------	--------	-------	4	83	87
1889	-------	-------	114	-------	12	126	-------	--------	-------	5	8	13
1898	-------	-------	37	-------	4	41	-------	--------	-------	13	-------	13
1902	92	-------	2,286	104	31	2,513	-------	--------	-------	16	-------	16
1905	124	50	4,301	270	69	4,814	-------	--------	60	20	-------	80
1908	25	-------	5,589	534	179	6,327	-------	--------	123	146	-------	269
1919	691	-------	13,919	1,584	9	16,203	71	--------	1,765	34	-------	1,870
1924	70	-------	6,307	1,744	2	8,123	171	4	1,751	50	10	1,986
1928	4	-------	6,996	1,377	1	8,378	159	--------	3,139	275	182	3,755

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[1] Not available. Prior to 1889 some of these species were included under "Miscellaneous fish" or "All other species."

[2] Less than 500 pounds.

Fisheries of the New England States, 1879 to 1928—Continued

CATCH OF CERTAIN SPECIES: BY STATES—Continued

[Expressed in thousands of pounds, that is, 000 omitted]

Year	Lobsters						Squid				
	Maine	New Hampshire	Massachusetts	Rhode Island	Connecticut	Total	Maine	Massachusetts	Rhode Island	Connecticut	Total
1879	(1)	(1)	4,315	(1)	(1)	------	(1)	225	(1)	(1)	------
1880	14,234	250	(1)	423	724	------	------	(1)	(1)	(1)	------
1887	22,917	143	3,511	570	1,487	28,628	------	511	------	------	------
1888	21,696	136	3,743	588	1,477	27,640	------	486	------	------	486
1889	25,002	137	3,354	456	1,501	30,450	------	568	------	------	568
1892	17,643	196	3,182	774	1,615	23,410	------	(1)	(1)	(1)	------
1897 (fiscal)	10,301	90	2,089	(1)	(1)	------	(1)	(1)	(1)	(1)	------
1898	11,183	109	1,694	578	1,098	14,662	------	1,074	124	7	1,205
1900	12,347	205	1,805	660	550	15,567	(1)	(1)	(1)	(1)	--
1902	12,163	128	1,696	397	372	14,756	------	5,365	94	38	5,497
1905	9,018	256	1,283	530	437	11,524	------	786	133	26	945
1908	9,929	264	2,455	1,425	661	14,734	6	1,837	292	21	2,156
1913	7,672	302	1,524	1,283	724	11,505	(1)	(1)	(1)	(1)	------
1919	5,546	298	2,388	1,694	741	10,677	(2)	6,135	378	4	6,517
1924	5,512	126	1,680	1,696	702	9,716	2	2,105	953	17	3,077
1928	7,100	130	2,042	1,638	694	11,604	27	5,540	2,311	49	7,927

Year	Clams, hard [3]					Clams, soft [4]					
	Maine	Massachusetts	Rhode Island	Connecticut	Total	Maine	New Hampshire	Massachusetts	Rhode Island	Connecticut	Total
1879	(1)	88	(1)	(1)	------	(1)	(1)	1,586	(1)	(1)	------
1880	------	(1)	------	------	------	3,184	180	(1)	540	750	------
1887	1	284	154	151	590	6,088	3	2,307	258	267	8,923
1888	1	209	265	151	626	6,007	3	2,438	308	266	9,022
1889	1	135	237	171	544	8,423	3	2,518	334	264	11,542
1892	------	(5)	(5)	(5)	------	4,169	10	[6] 2,418	[6] 489	[6] 380	7,466
1898	------	510	250	234	994	9,470	6	1,471	150	200	11,297
1902	------	855	217	151	1,223	5,546	30	2,279	265	225	8,345
1905	------	1,332	182	54	1,568	3,728	28	2,175	307	138	6,376
1908	------	1,119	162	100	1,381	5,061	------	1,916	275	42	7,294
1919	------	876	156	50	1,082	2,106	67	2,187	404	229	4,993
1924	1	1,222	432	24	1,679	3,577	36	2,520	82	44	6,259
1928	------	1,661	540	31	2,232	3,621	------	1,797	14	38	5,470

Year	Oysters [7]						Scallops [8]				
	Maine	New Hampshire	Massachusetts	Rhode Island	Connecticut	Total	Maine	Massachusetts	Rhode Island	Connecticut	Total
1879	(1)	(1)	252	(1)	(1)	------	(1)	42	(1)	(1)	------
1880	------	8	(1)	1,306	2,692	------	------	(1)	125	------	------
1887	------	------	302	1,358	11,009	12,669	221	252	11	2	486
1888	------	------	319	1,325	10,569	12,213	180	157	5	------	342
1889	------	------	259	1,424	10,401	12,084	295	117	23	3	438
1892	------	------	454	1,506	14,911	16,871	116	505	316	3	940
1897 (fiscal)	1	------	339	(1)	(1)	------	(1)	(1)	(1)	(1)	------
1898	------	------	709	3,202	14,633	18,544	167	876	115	50	1,208
1902	------	------	724	4,256	14,571	19,551	115	397	120	14	646
1905	------	------	996	6,413	25,811	33,220	415	263	2	------	680
1908	1	------	1,084	8,603	27,636	37,324	1,257	502	4	------	1,763
1910	------	------	2,026	15,878	23,690	41,594	------	(1)	(1)	(1)	------
1919	------	------	878	6,262	12,197	19,337	73	1,332	34	38	1,477
1924	------	------	698	2,584	8,020	11,302	296	699	271	2	1,268
1928	------	------	1,079	3,248	5,046	9,373	326	1,354	73	------	1,753

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[1] Not available. Prior to 1889 some of these species were included under "Miscellaneous fish" or "All other species."

[2] Less than 500 pounds.

[3] Shown on the basis of 8 pounds of meat to the bushel.

[4] Shown on the basis of 10 pounds of meat to the bushel.

[5] Included with soft clams.

[6] Includes hard clams.

[7] Shown on the basis of 7 pounds of meat to the bushel.

[8] Shown on the basis of 6 pounds of meat to the bushel.

NOTE.—It is possible that in some instances since 1889 a few of the above species are not shown by reason of being included under "Miscellaneous fish" or "All other species."

Fisheries of the New England States, 1879 to 1928—Continued

SUMMARY: BY STATES

[Expressed in thousands of pounds and thousands of dollars; that is, 000 omitted]

Year	Maine		New Hampshire		Massachusetts		Rhode Island		Connecticut		Total	
	Quantity	*Value*	*Quantity*	*Value*	*Quantity*	*Value*	*Quantity*	*Value*	*Quantity*	*Value*	*Quantity*	*Value*
80		2,742		171		7,960		697		933		12,503
87	131,380	2,365	4,255	99	299,544	6,464	45,285	684	39,750	301	520,214	9,913
88	132,930	2,292	3,843	90	302,046	6,356	91,687	825	42,402	297	572,908	9,860
89	129,560	2,111	4,355	89	299,218	5,858	127,365	935	92,672	1,558	653,170	10,551
98	123,405	2,655	3,021	49	202,258	4,464	32,854	955	31,920	1,559	393,458	9,682
02	242,390	2,919	1,593	50	230,646	6,482	21,614	1,156	37,832	1,799	534,075	12,406
05	124,724	2,386	1,036	52	255,655	7,025	23,896	1,547	74,973	3,174	480,284	14,184
08	173,843	3,257	677	53	244,313	7,095	44,254	1,752	66,942	2,982	530,029	15,139
19	147,956	3,889	529	93	246,951	10,860	48,251	3,296	23,653	1,701	467,340	19,839
24	116,707	4,137	447	56	243,363	10,799	20,535	1,819	25,770	2,007	406,822	18,818
28	123,326	4,231	239	45	380,169	15,649	27,666	2,398	72,198	3,297	603,598	25,620

VESSEL FISHERIES AT PRINCIPAL NEW ENGLAND PORTS

ECONOMIC ASPECT

The landings of fishery products at the principal New England orts (Boston and Gloucester, Mass., and Portland, Me.) by vessels f 5 net tons and over during 1929 amounted to 327,096,327 pounds, s landed, valued at $13,051,704. This exceeded the amount landed nd value of the landings for any year for which records are available. ncreased landings are due to the larger landings of haddock, mackrel, and hake. Of the total landings, 99 per cent consisted of fresh ish and 1 per cent of salt fish. The landings at Boston accounted or the bulk of those landed at the three ports in 1929, amounting to 55,721,954 pounds, valued at $10,736,653, or 78 per cent of the total. This is an increase over 1928 of 17 per cent in amount and 22 per cent n value. Landings at Gloucester in 1929 amounted to 53,879,975 ounds, valued at $1,708,596, or 17 per cent of the total. This is an ncrease of 29 per cent in amount and 16 per cent in value compared vith the amount and value of the landings in 1928. At Portland, 7,494,398 pounds of fishery products, valued at $606,455, were anded. This was 5 per cent of the total landings at the three ports, nd a decrease of 1 per cent in amount and an increase of 7 per cent n value compared with the landings in 1928.

Species landed.—Among the landings of fresh fish, haddock far outanked other species in volume landed, the amount of all sizes in 1929 eing 187,203,733 pounds, or 58 per cent of the total fresh fish. This is an increase of 21 per cent over the amount landed in 1928. f the total haddock landed, 58 per cent were taken from Georges ank, 34 per cent from South Channel, 5 per cent from Browns Bank, nd the remainder (except for 3,117,170 pounds which were taken off anada) were taken from various other banks off the United States.

Cod was of next importance, although a very poor second. The andings of all sizes of this species fresh amounted to 49,522,884 ounds, or 15 per cent of the total amount of fresh fish landed at the hree ports in 1929. This is a decrease of 15 per cent from that landed n 1928. Cod was taken chiefly on Georges Bank and South Channel.

Mackerel landings, fresh, amounted to 37,521,563 pounds at the hree ports, or 12 per cent of the total landings of fresh fish. This is 1 per cent of the total catch of mackerel by the United States tlantic mackerel fleet, and an increase of 55 per cent compared with he landings of this species in 1928.

Hake, with landings of 12,037,034 pounds, or 4 per cent of the total fresh-fish landings ranked fourth in importance, and increased 43 per cent over the landings of the previous year.

Flounders, a species which has been of increasing importance in the trade during the last few years, ranked fifth in importance among the fresh fish with landings of 10,787,765 pounds, or about 3 per cent of the total landings of all fresh fish. This is an increase of 4 per cent over 1928.

Pollock, with landings of 10,561,970 pounds, or 3 per cent of the total landings of fresh fish in 1929, ranked sixth in importance, and increased 32 per cent over the previous year.

The landings of all other varieties of fresh fish, amounting to about 5 per cent of the total, increased in 1929 over the respective amount of the landings in 1928 except halibut.

Among the salt fish, herring was the most important species, with landings of 3,518,160 pounds. This was 72 per cent of the landings of all salt fish, and was an increase of 149 per cent compared with the landings of this species in 1928.

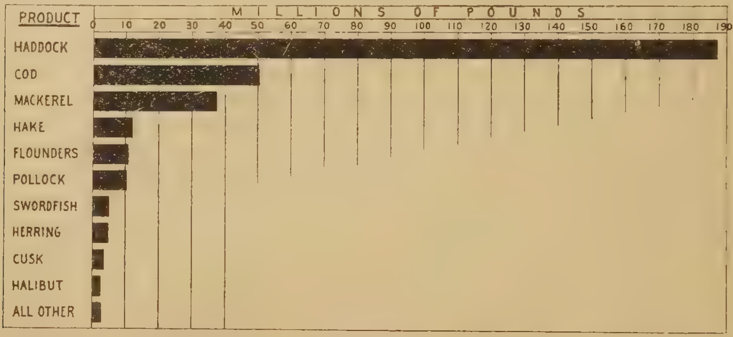

FIGURE 15.—Landings of fish by fishing vessels at the principal New England ports, 1929

The landings of salt ground fish—cod, hake, pollock, cusk, and halibut—amounted to 1,153,362 pounds, and consisted almost entirely of salt cod. This amount was 24 per cent of the total landings of salt fish at the three ports. The landings of the various species of salt ground fish landed in 1929 varied but little from the amount landed in 1928.

Landings of salt mackerel amounted to 221,945 pounds, which was 4 per cent of the total landings of salt fish, and was an increase of 152 per cent compared with the landings of this species salted in 1928.

Fishery by months.—Over 50 per cent of the landings of fish at the three ports were made during the five months from July to October, inclusive. The total landings during the month of July were largest and amounted to 38,200,136 pounds. Landings during September were second largest, amounting to 37,494,064 pounds; and those during August were third largest, amounting to 36,141,458 pounds. As a rule, landings during each of the warmer months were larger than during the cooler months of the year.

The following table gives the economic statistics obtained on the landings of fishery products at Boston, Gloucester, and Portland during 1929, for vessels of 5 net tons and upward, as measured by the United States Customs Service. The weights of fresh and salted fish given in this table represent the weights as landed from the vessels. Many of the fresh fish landed were eviscerated on the vessels. This is true of the ground fish group, except the flounders. Swordfish are eviscerated and beheaded. Fresh mackerel, flounders, and herring are landed in the round. Species included under "other" are generally landed in the round. Salted ground fish are landed eviscerated and beheaded; salted mackerel eviscerated and split; and salted herring, gibbed. The values are those received by the fisherman. The grades, or sizes given for certain species, are those recognized in the trade.

Landings by fishing vessels at principal New England ports, 1929

BOSTON: BY MONTHS

Species	January		February		March	
	Pounds	*Value*	*Pounds*	*Value*	*Pounds*	*Value*
Cod, fresh:						
Large	1, 068, 767	$82, 804	3, 138, 741	$128, 429	3, 377, 701	$122, 706
Market	505, 145	24, 785	759, 255	29, 480	620, 606	20, 066
Scrod	4, 875	161	2, 910	58	120	4
Haddock, fresh:						
Large	9, 595, 915	594, 645	13, 556, 265	674, 673	15, 131, 720	618, 874
Scrod	670, 865	27, 754	793, 960	28, 825	858, 000	24, 796
Hake, fresh:						
Large	456, 230	26, 583	406, 115	23, 218	211, 100	12, 205
Small			1, 000	20	420	17
Pollock, fresh	336, 890	17, 965	590, 960	18, 685	209, 670	9, 432
Cusk, fresh	159, 660	6, 373	240, 140	9, 764	170, 745	5, 239
Halibut, fresh	18, 148	7, 338	249, 877	52, 696	242, 928	41, 021
Flounders, fresh	453, 257	54, 131	768, 933	50, 451	675, 230	47, 871
Other, fresh	69, 895	5, 672	192, 409	6, 906	115, 723	5, 643
Total, fresh	13, 339, 647	848, 211	20, 700, 565	1, 023, 205	21, 613, 963	907, 874
Landed in 1928: Total, Fresh	12, 578, 924	688, 195	15, 708, 584	904, 209	22, 845, 734	949, 393

BOSTON: BY MONTHS

Species	April		May		June		July	
	Pounds	*Value*	*Pounds*	*Value*	*Pounds*	*Value*	*Pounds*	*Value*
Cod, fresh:								
Large	2, 029, 564	$83, 434	1, 432, 260	$51, 293	1, 701, 208	$66, 817	2, 337, 643	$90, 570
Market	736, 845	21, 795	985, 695	20, 371	1, 400, 475	31, 056	2, 856, 845	62, 637
Scrod	7, 190	75	1, 500	15	9, 795	98	5, 735	60
Cod, salted:								
Large			20, 620	1, 131	15, 000	750		
Market			450	18	400	16		
Haddock, fresh:								
Large	13, 437, 633	350, 990	12, 514, 479	279, 407	11, 205, 358	286, 369	14, 728, 871	300, 165
Scrod	800, 035	13, 161	717, 980	8, 024	816, 172	11, 094	853, 935	9, 212
Hake, fresh, large	180, 591	9, 694	297, 890	7, 276	285, 520	5, 091	457, 340	6, 911
Pollock, fresh	120, 420	6, 882	81, 680	1, 835	150, 497	3, 319	261, 285	6, 586
Pollock, salted							110	2
Cusk, fresh	126, 785	3, 545	281, 485	5, 147	33, 450	623	66, 430	1, 104
Halibut, fresh	274, 057	46, 361	293, 070	56, 728	409, 996	62, 292	394, 160	60, 394
Mackerel, fresh	40, 000	4, 100	668, 640	34, 216	4, 868, 965	204, 197	5, 467, 140	226, 198
Mackerel, salted							3, 500	178
Flounders, fresh	1, 112, 280	35, 464	1, 106, 086	17, 400	728, 904	15, 511	589, 497	24, 854
Swordfish, fresh					610, 294	134, 051	2, 241, 936	344, 768
Herring, fresh					3, 750	62		
Other, fresh	156, 260	4, 760	114, 359	3, 875	73, 396	3, 401	89, 638	4, 944
Total, fresh	19, 021, 660	580, 261	18, 495, 124	485, 587	22, 297, 780	823, 981	30, 350, 455	1, 138, 403
Total, salted			21, 070	1, 149	15, 400	766	3, 610	180
Grand total	19, 021. 660	580, 261	18, 516. 194	486, 736	22, 313, 180	824, 747	30, 354, 065	1, 138, 583
Landed in 1928:								
Fresh	17, 727, 360	542, 113	16, 190, 192	463, 272	18, 653, 239	666, 089	20, 214, 452	831, 627
Salted							8, 625	149
Total	17, 727, 360	542, 113	16, 190, 192	463, 272	8, 653, 239 1	666. 089	20, 223, 077	831, 776

NOTE.—The weights of fresh and salted fish given in these statistics represent the fish as landed from the vessels, and the values are those received by the fishermen. Large cod are classified as those weighing over 10 pounds; market cod, 2½ to 10 pounds; and scrod cod, 1 to 2½ pounds. Large haddock are those weighing over 2½ pounds and scrod haddock, 1 to 2½ pounds. Large hake are those weighing over 6 pounds and small hake, under 6 pounds.

Landings by fishing vessels at principal New England ports, 1929—Continued

BOSTON: BY MONTHS—Continued

Species	August		September		October		November	
	Pounds	*Value*	*Pounds*	*Value*	*Pounds*	*Value*	*Pounds*	*Value*
Cod, fresh:								
Large	2, 157, 718	$87, 572	1, 674, 662	$92, 489	1, 944, 967	$107, 266	1, 307, 990	$68, 272
Market	2, 903, 183	66, 859	2, 067, 010	58, 981	1, 437, 265	51, 210	801, 882	27, 943
Scrod	8, 390	93	20, 200	390	42, 115	841	63, 525	1, 449
Haddock, fresh:								
Large	16, 431, 749	431, 900	14, 555, 285	521, 560	12, 188, 704	638, 148	9, 515, 215	511, 211
Scrod	811, 615	9, 855	948, 475	19, 538	851, 420	29, 550	464, 470	15, 881
Hake, fresh:								
Large	642, 520	10, 325	848, 715	16, 725	2, 118, 230	64, 016	2, 837, 630	89, 100
Small					750	15	5, 052	87
Pollock, fresh	476, 375	8, 403	528, 870	9, 771	544, 075	10, 557	745, 775	12, 628
Cusk, fresh	29, 685	559	98, 020	1, 954	271, 040	6, 943	621, 345	14, 345
Halibut, fresh	322, 002	55, 637	149, 765	31, 137	109, 510	27, 772	32, 641	9, 547
Mackerel, fresh	3, 473, 667	183, 391	4, 014, 789	100, 817	2, 610, 911	147, 555	57, 720	7, 649
Mackerel, salted			56, 300	3, 499	2, 400	156		
Flounders, fresh	592, 763	31, 139	816, 548	43, 157	834, 403	48, 815	998, 863	50, 165
Swordfish, fresh	1, 000, 895	195, 002	223, 930	55, 346	19, 030	6, 252		
Other, fresh	77, 935	4, 985	83, 193	5, 571	85, 276	5, 257	74, 260	4, 240
Total, fresh	28, 928, 497	1,085,720	26, 029, 462	957, 436	23, 057, 696	1,144,197	17, 526, 368	812, 517
Total, salted			56, 300	3, 499	2, 400	156		
Grand total	28, 928, 497	1,085,720	26, 085, 762	960, 935	23, 060, 096	1,144,353	17, 526, 368	812, 517
Landed in 1928:								
Fresh	19, 813, 280	800, 281	17, 335, 989	752, 686	24, 474, 064	794, 523	16, 033, 510	773, 307
Salted	19, 600	1, 266			6, 000	180		
Total	19, 832, 880	801, 547	17, 335, 989	752, 686	24, 480, 064	794, 703	16, 033, 510	773, 307

Species	December		Total, 1929		1928	
	Pounds	*Value*	*Pounds*	*Value*	*Pounds*	*Value*
Cod, fresh:						
Large	747, 654	$69, 193	22, 918, 875	$1, 050, 845	25, 091, 098	$1, 114, 068
Market	628, 475	35, 463	15, 702, 681	450, 646	14, 780, 884	390, 149
Scrod	54, 855	1, 812	221, 210	5, 056	82, 126	1, 723
Cod, salted:						
Large			35, 620	1, 881	1, 865	37
Market			850	34		
Haddock, fresh:						
Large	8, 725, 928	586, 499	151, 587, 122	5, 794, 441	124, 787, 089	4, 299, 361
Scrod	525, 435	24, 074	9, 112, 362	221, 764	12, 052, 193	274, 608
Hake, fresh:						
Large	1, 416, 725	79, 805	10, 158, 606	350, 949	6, 501, 623	180, 525
Small	830	12	8, 052	151	81, 645	1, 323
Hake, salted, large					6, 760	112
Pollock, fresh	406, 575	16, 075	4, 453, 072	122, 138	3, 087, 336	83, 649
Pollock, salted			110	2		
Cusk, fresh	604, 005	25, 772	2, 702, 790	81, 368	1, 573, 247	43, 469
Halibut, fresh	24, 352	8, 923	2, 520, 506	459, 846	3, 316, 262	597, 042
Mackerel, fresh	200	34	21, 202, 032	908, 157	15, 285, 061	872, 911
Mackerel, salted			62, 200	3, 833	19, 600	1, 266
Flounders, fresh	1, 028, 750	71, 401	9, 705, 514	490, 359	8, 582, 866	400, 754
Swordfish, fresh			4, 096, 085	735, 419	2, 263, 770	497, 861
Herring, fresh			3, 750	62	19, 400	270
Herring, salted					6, 000	180
Other, fresh	98, 173	4, 448	1, 230, 517	59, 702	848, 864	46, 856
Total, fresh	14, 261, 957	923, 511	255, 623, 174	10, 730, 903	218, 353, 464	8, 804, 569
Total, salted			98, 780	5, 750	34, 225	1, 595
Grand total	14, 261, 957	923, 511	255, 721, 954	10, 736, 653	218, 387, 689	8, 806, 164
Landed in 1928:						
Fresh	16, 778, 136	638, 874			218, 353, 464	8, 804, 569
Salted					34, 225	1, 595
Total	16, 778, 136	638, 874			218, 387, 689	8, 806, 164

Landings by fishing vessels at principal New England ports, 1929—Continued

GLOUCESTER: BY MONTHS

Species	January		February		March		April	
	Pounds	*Value*	*Pounds*	*Value*	*Pounds*	*Value*	*Pounds*	*Value*
Cod, fresh:								
Large	333, 745	$30, 051	483, 245	$23, 968	1, 101, 545	$44, 103	1, 123, 975	$43, 863
Market	13, 405	798	39, 960	1, 716	35, 595	1, 082	106, 900	2, 273
Scrod	395	19	345	5			12, 300	246
Cod, salted:								
Large					16, 550	628	32, 045	1, 475
Market					760	23	4, 405	158
Haddock, fresh:								
Large	793, 355	50, 696	1, 219, 970	58, 813	1, 673, 145	61, 708	3, 491, 610	60, 265
Scrod	68, 925	2, 789	140, 855	4, 270	70, 180	1, 854	153, 905	1, 867
Hake, fresh:								
Large	2, 875	165	15, 630	545	2, 030	69	3, 785	59
Small	5, 250	197	380	8				
Hake, salted: Large							155	4
Pollock, fresh	565	25	3, 900	109	10, 310	406	42, 150	1, 123
Cusk, fresh	90	4	230	8	4, 060	56	12, 290	166
Halibut, fresh	110	26	691	139	645	102	217	33
Flounders, fresh	117, 091	10, 408	71, 620	5, 396	79, 550	6, 241	42, 230	1, 570
Herring, salted	1, 857, 832	70, 671	452, 856	17, 196				
Other, fresh			5, 820	98	3, 420	97	1, 145	24
Total, fresh	1, 335, 806	95, 178	1, 982, 646	95, 075	2, 980, 480	115, 718	4, 990, 507	111, 489
Total, salted	1, 857, 832	70, 671	452, 856	17, 196	17, 310	651	36, 605	1, 637
Grand total	3, 193, 638	165, 849	2, 435, 502	112, 271	2, 997, 790	116, 369	5, 027, 112	113, 126
Landed in 1928:								
Fresh	737, 570	45, 227	808, 620	52, 864	1, 968, 565	98, 828	3, 280, 020	93, 580
Salted	787, 140	30, 271			2, 550	126	27, 404	1, 373
Total	1, 524, 710	75, 498	808, 620	52, 864	1, 971, 115	98, 954	3, 307, 424	94, 953

Species	May		June		July	
	Pounds	*Value*	*Pounds*	*Value*	*Pounds*	*Value*
Cod, fresh:						
Large	1, 274, 116	$46, 209	1, 125, 420	$30, 503	504, 130	$13, 577
Market	105, 335	2, 027	520, 215	11, 180	420, 580	9, 091
Scrod			275	3		
Cod, salted:						
Large	174, 290	8, 051	325, 390	13, 874	97, 005	4, 762
Market	18, 850	687	88, 305	2, 514	14, 465	533
Haddock, fresh:						
Large	2, 023, 785	45, 365	1, 861, 555	43, 381	1, 767, 185	35, 320
Scrod	126, 880	1, 325	116, 930	1, 295	123, 365	962
Hake, fresh: Large	25, 625	321	35, 860	536	34, 016	417
Hake, salted: Large	3, 075	77			460	9
Pollock, fresh	273, 462	5, 921	5, 990	86	7, 290	93
Pollock, salted			215	5	420	9
Cusk, fresh	43, 055	699	26, 255	428	19, 090	289
Cusk, salted	400	10	700	50	600	21
Halibut, fresh	974	117	697	105	21, 002	1, 448
Halibut, salted	25	2			435	44
Mackerel, fresh	81, 600	5, 740	1, 078, 082	39, 900	2, 788, 485	74, 517
Mackerel, salted			24, 200	1, 540	8, 000	520
Flounders, fresh	93, 105	2, 249	36, 250	804	33, 570	984
Swordfish, fresh			709	128	7, 690	1, 218
Herring, fresh					58, 600	733
Other, fresh	760	17	790	21	59, 150	1, 174
Total, fresh	4, 048, 697	109, 990	4, 809, 028	128, 370	5, 844, 153	139, 823
Total, salted	196, 640	8, 827	438, 810	17, 953	121, 385	5, 898
Grand total	4, 245, 337	118, 817	5, 247, 838	146, 323	5, 965, 538	145, 721
Landed in 1928:						
Fresh	4, 477, 905	114, 939	5, 771, 710	167, 335	5, 902, 870	166, 015
Salted	232, 165	11, 642	202, 805	9, 986	150, 215	7, 193
Total	4, 710, 070	126, 581	5, 974, 515	177, 321	6, 053, 085	173, 208

Landings by fishing vessels at principal New England ports, 1929—Continued

GLOUCESTER: BY MONTHS—Continued

Species	August		September		October		November	
	Pounds	*Value*	*Pounds*	*Value*	*Pounds*	*Value*	*Pounds*	*Value*
Cod, fresh:								
Large	228, 860	$6, 542	560, 090	$29, 358	130, 126	$7, 972	66, 290	$4, 080
Market	186, 555	4, 308	80, 085	1, 865	23, 095	787	28, 725	911
Scrod	100	1						
Cod, salted:								
Large	149, 070	7, 372	74, 160	3, 921	35, 300	1, 804		
Market	14, 925	625	10, 430	451	2, 632	106		
Haddock, fresh:								
Large	1, 312, 720	33, 883	1, 089, 800	37, 811	769, 140	40, 424	1, 005, 235	52, 881
Scrod	67, 770	759	129, 235	2, 450	72, 985	2, 295	78, 135	2, 249
Hake, fresh: Large	40, 685	543	89, 690	1, 369	111, 425	3, 504	126, 095	3, 788
Hake, salted:								
Large	2, 565	59	580	12	4, 605	106		
Small					920	23		
Pollock, fresh	29, 445	408	93, 000	2, 053	348, 865	7, 283	2, 746, 087	36, 037
Pollock, salted	1, 670	34	210	5	280	6		
Cusk, fresh	64, 925	1, 108	34, 460	527	9, 495	166	465	10
Cusk, salted	3, 330	88			4, 440	145		
Halibut, fresh	20, 229	1, 530	567	64	570	106	740	131
Mackerel, fresh	3, 024, 670	76, 611	6, 589, 945	136, 680	398, 199	25, 716	373, 821	50, 676
Mackerel, salted	45, 460	1, 375	65, 200	3, 821			350	53
Flounders, fresh	21, 440	795	25, 715	1, 193	15, 790	1, 025	31, 405	1, 969
Swordfish, fresh	602	120	2, 180	458				
Herring, fresh	13, 000	130	8, 000	50				
Other, fresh	112, 960	1, 366	114, 010	1, 339	18, 575	819	160, 652	11, 140
Total, fresh	5, 123, 961	128, 104	8, 816, 777	215, 217	1, 898, 265	90, 097	4, 617, 650	163, 872
Total, salted	217, 020	9, 553	150, 580	8, 210	48, 177	2, 190	350	53
Grand total	5, 340, 981	137, 657	8, 967, 357	223, 427	1, 946, 442	92, 287	4, 618, 000	163, 925
Landed in 1928:								
Fresh	3, 731, 916	113, 660	2, 475, 295	100, 212	3, 651, 282	111, 390	3, 862, 636	193, 058
Salted	237, 498	13, 294	153, 350	8, 661	54, 925	2, 829	15, 007	779
Total	3, 969, 414	126, 954	2, 628, 645	108, 873	3, 706, 207	114, 219	3, 877, 643	193, 837

Species	December		Total, 1929		1928	
	Pounds	*Value*	*Pounds*	*Value*	*Pounds*	*Value*
Cod, fresh:						
Large	196, 028	$22, 054	7, 127, 570	$302, 280	12, 326, 926	$459, 872
Market	14, 077	634	1, 574, 527	36, 672	2, 761, 885	56, 538
Scrod			13, 415	274	7, 790	89
Cod, salted:						
Large			903, 810	41, 887	853, 392	45, 262
Market			154, 772	5, 097	140, 012	5, 633
Scrod					400	11
Haddock, fresh:						
Large	631, 317	41, 654	17, 638, 817	562, 201	8, 904, 022	209, 910
Scrod	75, 765	2, 473	1, 224, 930	24, 588	746, 495	12, 481
Haddock, salted:						
Large					8, 170	425
Scrod					70	2
Hake, fresh:						
Large	72, 038	3, 864	559, 754	15, 180	384, 578	7, 000
Small			5, 630	205	3, 730	61
Hake, salted:						
Large			11, 440	267	2, 320	45
Small			920	23	840	17
Pollock, fresh	1, 596, 947	50, 384	5, 158, 011	103, 928	4, 083, 175	75, 813
Pollock, salted			2, 795	59	8, 590	174
Cusk, fresh	260	7	214, 675	3, 468	298, 000	4, 695
Cusk, salted			9, 470	284	6, 515	139
Halibut, fresh	181	46	46, 623	3, 847	908	214
Halibut, salted			460	46	3, 520	314
Mackerel, fresh	1, 760	352	14, 336, 562	410, 192	8, 144, 450	442, 026
Mackerel, salted			143, 210	7, 309	68, 150	4, 802
Flounders, fresh	96, 800	5, 649	664, 566	38, 283	1, 322, 207	89, 846
Swordfish, fresh			11, 181	1, 924	18, 340	3, 981
Herring, fresh			79, 600	913	252, 800	2, 703
Herring, salted	1, 207, 472	45, 649	3, 518, 160	133, 516	1, 404, 564	53, 289
Other, fresh	1, 795	58	479, 077	16, 153	151, 984	2, 358
Total, fresh	2, 686, 968	127, 175	49, 134, 938	1, 520, 108	39, 407, 290	1, 367, 587
Total, salted	1, 207, 472	45, 649	4, 745, 037	188, 488	2, 496, 543	110, 113
Grand total	3, 894, 440	172, 824	53, 879, 975	1, 708, 596	41, 903, 833	1, 477, 700
Landed in 1928:						
Fresh	2, 738, 901	110, 479			39, 407, 290	1, 367, 587
Salted	633, 484	23, 959			2, 496, 543	110, 113
Total	3, 372, 385	134, 438			41, 903, 833	1, 477, 700

Landings by fishing vessels at principal New England ports, 1929—Continued

PORTLAND: BY MONTHS

Species	January		February		March	
	Pounds	*Value*	*Pounds*	*Value*	*Pounds*	*Value*
Cod, fresh:						
Large	56,891	$4,105	73,171	$3,309	76,157	$3,243
Market	24,554	1,291	34,740	1,451	40,195	1,533
Scrod	2,355	25	3,061	31	1,830	16
Haddock, fresh:						
Large	223,936	17,772	946,756	41,151	760,196	26,895
Scrod	7,305	86	11,110	111	12,435	120
Hake, fresh:						
Large	2,508	185	1,327	66	100	4
Small	68,610	3,646	60,979	2,880	31,424	1,267
Pollock, fresh	32,882	1,488	33,840	786	47,661	1,668
Cusk, fresh	52,253	2,921	55,932	2,512	70,646	2,496
Halibut, fresh	759	208	903	199	1,847	274
Flounders, fresh	38,118	2,793	67,518	3,116	56,997	2,151
Other, fresh	29,049	731	51,462	1,311	40,794	955
Total, fresh	539,220	35,251	1,340,799	56,923	1,140,282	40,622
Landed in 1928:						
Fresh	579,643	31,853	734,185	38,696	1,229,213	47,425
Salted	-----	-----	1,125	17	100	1
Total	579,643	31,853	735,310	38,713	1,229,313	47,426

Species	April		May		June		July	
	Pounds	*Value*	*Pounds*	*Value*	*Pounds*	*Value*	*Pounds*	*Value*
Cod, fresh:								
Large	274,306	$7,333	143,100	$4,151	128,175	$5,656	171,163	$7,747
Market	46,320	1,211	20,995	483	3,965	85	5,796	133
Scrod	1,715	10	295	2	655	2	925	9
Cod, salted:								
Large	-----	-----	8,300	398	14,700	699	1,290	58
Market	-----	-----	850	33	2,695	101	870	30
Haddock, fresh:								
Large	1,971,600	36,419	524,733	9,751	186,030	4,974	884,675	19,684
Scrod	3,605	31	1,070	8	3,040	20	4,335	29
Hake, fresh:								
Large	1,500	45	1,130	62	435	5	1,470	23
Small	20,306	940	45,145	924	37,510	536	53,253	792
Hake, salted:								
Large	-----	-----	880	18	-----	-----	-----	-----
Small	-----	-----	110	3	1,020	18	-----	-----
Pollock, fresh	10,080	193	18,730	255	109,390	1,486	52,854	905
Cusk, fresh	72,130	1,886	40,539	769	2,837	62	1,625	33
Cusk, salted	-----	-----	1,000	25	1,300	32	-----	-----
Halibut, fresh	4,404	875	10,787	1,882	67,329	10,927	37,903	5,569
Mackerel, fresh	-----	-----	5,795	189	6,691	375	297,387	12,295
Mackerel, salted	-----	-----	1,100	16	-----	-----	85	4
Flounders, fresh	69,580	1,549	39,885	805	34,275	670	37,005	833
Swordfish, fresh	-----	-----	-----	-----	46,139	9,575	271,167	41,281
Herring, fresh	-----	-----	-----	-----	290,700	4,588	13,600	238
Other, fresh	32,378	582	12,974	252	15,700	313	45,130	1,476
Total, fresh	2,507,924	51,074	865,178	19,533	932,871	39,274	1,878,288	91,047
Total, salted	-----	-----	12,240	493	19,715	850	2,245	92
Grand total	2,507,924	51,074	877,418	20,026	952,586	40,124	1,880,533	91,139
Landed in 1928:								
Fresh	1,357,163	26,923	3,176,750	61,516	1,981,332	44,218	1,553,676	59,577
Salted	116,000	1,710	24,670	1,184	1,645	81	-----	-----
Total	1,473,163	28,633	3,201,420	62,700	1,982,977	44,299	1,553,676	59,577

Species	August		September		October		November	
	Pounds	*Value*	*Pounds*	*Value*	*Pounds*	*Value*	*Pounds*	*Value*
Cod, fresh:								
Large	99,306	$4,883	123,152	$6,759	199,809	$12,783	191,420	$9,913
Market	8,368	206	18,049	483	31,698	890	40,135	1,057
Scrod	1,485	7	5,580	31	5,019	37	8,105	49
Haddock, fresh:								
Large	1,007,981	23,064	222,245	10,235	316,124	19,145	313,668	16,835
Scrod	4,953	34	6,440	45	17,791	138	18,134	172
Hake, fresh:								
Large	1,140	19	4,940	95	-----	-----	4,385	131
Small	63,649	1,031	154,935	3,183	345,390	9,173	286,563	7,906
Pollock, fresh	41,625	693	95,600	1,405	233,114	3,995	238,749	3,510
Cusk, fresh	3,268	67	17,988	378	56,948	1,670	128,915	2,706
Halibut, fresh	511	78	805	127	868	167	2,005	459
Mackerel, fresh	191,580	7,310	1,338,337	28,869	143,179	3,494	-----	-----

Landings by fishing vessels at principal New England ports, 1929—Continued

PORTLAND: BY MONTHS—Continued

Species	August		September		October		November	
	Pounds	*Value*	*Pounds*	*Value*	*Pounds*	*Value*	*Pounds*	*Value*
Mackerel, salted	15, 350	$314						
Flounders, fresh	21, 277	780	6, 297	$357	7, 019	$542	21, 501	$754
Swordfish, fresh	109, 621	19, 729	58, 769	12, 815				
Herring, fresh	21, 000	368	75, 400	566	209, 000	1, 296	279, 400	1, 596
Other, fresh	280, 866	5, 032	312, 408	5, 200	134, 210	2, 316	73, 987	1, 503
Total, fresh	1, 856, 630	63, 301	2, 440, 945	70, 548	1, 700, 169	55, 646	1, 606, 967	46, 591
Total, salted	15, 350	314						
Grand total	1, 871, 980	63, 615	2, 440, 945	70, 548	1, 700. 169	55, 646	1, 606, 967	46, 591
Landed in 1928:								
Fresh	1, 696, 452	79, 329	1, 095, 616	41, 604	1, 732, 195	47, 625	1, 258, 600	43, 736
Salted	10, 240	457	387	31				
Total	1, 706, 692	79, 786	1, 096, 003	41, 635	1, 732, 195	47, 625	1, 258, 600	43, 736

Species	December		Total, 1929		1928	
	Pounds	*Value*	*Pounds*	*Value*	*Pounds*	*Value*
Cod, fresh:						
Large	84, 843	$6, 955	1, 621, 493	$76, 837	2, 673, 201	$108, 792
Market	30, 312	1, 534	305, 127	10, 357	377, 401	12, 711
Scrod	6. 961	71	37, 986	290	53, 500	411
Cod, salted:						
Large			24, 290	1, 155	146, 525	3, 217
Market			4, 415	164	5, 105	197
Haddock, fresh:						
Large	186, 751	15, 487	7, 544, 695	241, 412	8, 722, 779	238, 886
Scrod	5, 589	56	95, 807	850	109, 647	810
Hake, fresh:						
Large	130	6	19, 065	641	33, 062	789
Small	118, 163	5, 320	1, 285, 927	37, 598	1, 406, 925	31, 787
Hake, salted:						
Large			880	18		
Small			1, 130	21	1, 385	22
Pollock, fresh	36, 362	1, 025	950, 887	17, 409	861, 319	14, 794
Pollock, salted					45	1
Cusk, fresh	50, 424	2, 268	553, 505	17, 768	479, 205	14, 424
Cusk, salted	100	1	2, 400	58	720	13
Halibut, fresh	138	39	128, 259	20, 804	64, 789	11, 410
Mackerel, fresh			1, 982, 969	52, 532	735, 249	34, 882
Mackerel, salted			16, 535	334	387	31
Flounders, fresh	18, 213	1, 011	417, 685	15, 361	508, 947	20, 696
Swordfish, fresh			485, 696	83, 400	261, 530	52, 829
Herring, fresh	65, 400	456	954, 500	9, 108	433, 600	2, 336
Other, fresh	32, 189	667	1, 061. 147	20, 338	814, 848	16, 243
Total, fresh	635, 475	34, 895	17, 444, 748	604, 705	17, 536, 002	561, 800
Total, salted	100	1	49, 650	1, 750	154, 167	3, 481
Grand total	635, 575	34, 896	17, 494, 398	606, 455	17, 690, 169	565, 281
Landed in 1928:						
Fresh	1, 141, 177	39, 298			17, 536, 002	561, 800
Salted					154, 167	3, 481
Total	1, 141, 177	39, 298			17, 690, 169	565, 281

SUMMARY: BY PORTS

Species	Boston		Gloucester		Portland	
	Pounds	*Value*	*Pounds*	*Value*	*Pounds*	*Value*
Cod, fresh:						
Large	22, 918, 875	$1, 050, 845	7, 127, 570	$302, 280	1, 621, 493	$76, 837
Market	15, 702, 681	450, 646	1, 574, 527	36, 672	305, 127	10, 357
Scrod	221, 210	5, 056	13, 415	274	37, 986	290
Cod, salted:						
Large	35, 620	1, 881	903, 810	41, 887	24, 290	1, 155
Market	850	34	154, 772	5, 097	4, 415	164
Haddock, fresh:						
Large	151, 587, 122	5, 794, 441	17, 638, 817	562, 201	7, 544, 695	241, 412
Scrod	9, 112, 362	221, 764	1, 224, 930	24, 588	95, 807	850
Hake, fresh:						
Large	10, 158, 606	350, 949	559, 754	15, 180	19, 065	641
Small	8, 052	151	5, 630	205	1, 285, 927	37, 598
Hake, salted:						
Large			11, 440	267	880	18
Small			920	23	1, 130	21

Landings by fishing vessels at principal New England ports, 1929—Continued

SUMMARY: BY PORTS—Continued

Species	Boston		Gloucester		Portland	
	Pounds	*Value*	*Pounds*	*Value*	*Pounds*	*Value*
Pollock, fresh	4, 453, 072	$122, 138	5, 158, 011	$103, 928	950, 887	$17, 409
Pollock, salted	110	2	2, 795	59		
Cusk, fresh	2, 702, 790	81, 368	214, 675	3, 468	553, 505	17, 768
Cusk, salted			9, 470	284	2, 400	58
Halibut, fresh	2, 520, 506	459, 846	46, 623	3, 847	128, 259	20, 804
Halibut, salted			460	46		
Mackerel, fresh	21, 202, 032	908, 157	14, 336, 562	410, 192	1, 982, 969	52, 532
Mackerel, salted	62, 200	3, 833	143, 210	7, 309	16, 535	334
Flounders, fresh	9, 705, 514	490, 359	664, 566	38, 283	417, 685	15, 361
Swordfish, fresh	4, 096, 085	735, 419	11, 181	1, 924	485, 696	83, 400
Herring, fresh	3, 750	62	79, 600	913	954, 500	9, 108
Herring, salted			3, 518, 160	133, 516		
Other, fresh	1, 230, 517	59, 702	479, 077	16, 153	1, 061, 147	20, 338
Total, fresh	255, 623, 174	10, 730, 903	49, 134, 938	1, 520, 108	17, 444, 748	604, 705
Total, salted	98, 780	5, 750	4, 745, 037	188, 488	49, 650	1, 750
Grand total	255, 721, 954	10, 736, 653	53, 879, 975	1, 708, 596	17, 494, 398	606, 455
Landed in 1928:						
Fresh	218, 353, 464	8, 804, 569	39, 407, 290	1, 367, 587	17, 536, 002	561, 800
Salted	34, 225	1, 595	2, 496, 543	110, 113	154, 167	3, 481
Total	218, 387, 689	8, 806, 164	41, 903, 833	1, 477, 700	17, 690, 169	565, 281

Species	Total, 1929		1928	
	Pounds	*Value*	*Pounds*	*Value*
Cod, fresh:				
Large	31, 667, 938	$1, 429, 962	40, 091, 225	$1, 682, 732
Market	17, 582, 335	497, 675	17, 920, 170	459, 398
Scrod	272, 611	5, 620	143, 416	2, 223
Cod, salted:				
Large	963, 720	44, 923	1, 001, 782	48, 516
Market	160, 037	5, 295	145, 117	5, 830
Scrod			400	11
Haddock, fresh:				
Large	176, 770, 634	6, 598, 054	142, 413, 890	4, 748, 157
Scrod	10, 433, 099	247, 202	12, 908, 335	287, 899
Haddock, salted:				
Large			8, 170	425
Scrod			70	2
Hake, fresh:				
Large	10, 737, 425	366, 770	6, 919, 263	188, 314
Small	1, 299, 609	37, 954	1, 492, 300	33, 171
Hake, salted:				
Large	12, 320	285	9, 080	157
Small	2, 050	44	2, 225	39
Pollock, fresh	10, 561, 970	243, 475	8, 031, 830	174, 256
Pollock, salted	2, 905	61	8, 635	175
Cusk, fresh	3, 470, 970	102, 604	2, 350, 452	62, 588
Cusk, salted	11, 870	342	7, 235	152
Halibut, fresh	2, 695, 388	484, 497	3, 381, 959	608, 666
Halibut, salted	460	46	3, 520	314
Mackerel, fresh	37, 521, 563	1, 370, 881	24, 164, 760	1, 349, 819
Mackerel, salted	221, 945	11, 476	88, 137	6, 099
Flounders, fresh	10, 787, 765	544, 003	10, 414, 020	511, 296
Swordfish, fresh	4, 592, 962	820, 743	2, 543, 640	554, 671
Herring, fresh	1, 037, 850	10, 083	705, 800	5, 309
Herring, salted	3, 518, 160	133, 516	1, 410, 564	53, 469
Other, fresh	[1] 2, 770, 741	96, 193	1, 815, 696	65, 457
Total, fresh	322, 202, 860	12, 855, 716	275, 296, 756	10, 733, 956
Total, salted	4, 893, 467	195, 988	2, 684, 935	115, 189
Grand total	327, 096, 327	13, 051, 704	277, 981, 691	10, 849, 145
Landed in 1928:				
Fresh			275, 296, 756	10, 733, 956
Salted			2, 684, 935	115, 189
Total			277, 981, 691	10, 849, 145

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[1] The items under "Other" include bluebacks, 852,713 pounds, value $13,133; butterfish, 97,960 pounds, value $9,239; eels, 1,977 pounds, value $113; "perch" or cunner, 1,680 pounds, value $86; rosefish, 46,990 pounds, value $847; salmon, 100 pounds, value $4; sea robin, 400 pounds, value $8; shad, 212,976 pounds, value $11,850; shark, 29,029 pounds, value $855; shrimp, 42 pounds, value $3; skates, 40,045 pounds, value $633; sturgeon, 3,083 pounds, value $502; whiting, 12,765 pounds, value $462; wolffish, 948,613 pounds, value $39,567; lobsters, 9 pounds, value $4; scallops, 6,796 pounds, value $1,263; livers, 369,862 pounds, value $7,385; spawn, 145,401 pounds, value $10,233; and tongues, 300 pounds, value $6.

Landings by fishing vessels at Boston, Gloucester, and Portland, 1893 to 1929

[Expressed in thousands of pounds; that is, 000 omitted]

BY SPECIES

Year	Cod		Haddock		Hake		Pollock	
	Fresh	Salted	Fresh	Salted	Fresh	Salted	Fresh	Salted
1893	20, 254	34, 373	33, 865	44	19, 754	238	3, 453	161
1894	27, 762	35, 829	45, 608	4	23, 305	39	2, 175	6
1895	24, 071	43, 228	41, 578	28	15, 176	165	2, 356	122
1896	25, 448	34, 040	30, 167	----------	10, 526	18	1, 908	255
1897	27, 238	25, 757	30, 978	----------	14, 679	18	1, 891	----------
1898	31, 674	26, 485	32, 482	37	17, 502	19	4, 464	20
1899	48, 294	36, 906	33, 291	15	16, 657	53	7, 343	144
1900	34, 051	29, 969	33, 043	6	11, 445	78	5, 278	41
1901	35, 972	29, 719	28, 930	46	11, 121	148	7, 345	98
1902	36, 373	30, 248	38, 395	2	14, 264	134	12, 580	16
1903	30, 557	27, 195	40, 339	4	14, 769	78	11, 290	154
1904	30, 636	21, 443	47, 509	532	21, 887	237	10, 521	637
1905	36, 137	17, 852	65, 897	423	22, 781	457	20, 409	1, 646
1906	36, 196	18, 323	61, 195	400	13, 027	260	8, 522	988
1907	45, 953	15, 368	41, 815	463	19, 580	214	20, 428	776
1908	41, 615	21, 832	47, 418	641	20, 434	122	12, 429	1, 090
1909	38, 590	32, 744	42, 401	425	13, 163	113	12, 502	1, 381
1910	35, 549	25, 790	49, 227	340	19, 759	189	18, 808	816
1911	33, 977	19, 729	55, 711	464	18, 097	355	14, 747	879
1912	35, 519	18, 186	63, 225	323	15, 289	270	14, 359	307
1913	29, 177	15, 688	53, 436	237	13, 740	345	15, 031	236
1914	36, 080	11, 450	57, 599	155	12, 531	222	12, 243	211
1915	34, 088	10, 968	57, 813	131	14, 589	301	12, 961	235
1916	35, 993	7, 629	60, 371	184	13, 029	143	15, 502	101
1917	49, 873	6, 574	53, 395	160	7, 839	75	14, 467	40
1918	68, 338	3, 487	66, 603	68	5, 246	35	26, 507	53
1919	60, 651	4, 723	82, 561	155	4, 300	40	18, 696	56
1920	58, 407	3, 858	75, 235	45	4, 666	55	8, 539	22
1921	48, 106	5, 409	67, 397	15	4, 494	42	6, 893	52
1922	50, 174	5, 006	70, 065	131	5, 341	33	5, 048	49
1923	58, 232	4, 443	73, 718	44	6, 315	22	4, 766	39
1924	58, 656	2, 793	79, 897	5	7, 263	22	5, 067	18
1925	64, 097	3, 153	91, 861	25	5, 789	17	5, 243	47
1926	73, 637	4, 582	93, 983	77	5, 482	23	6, 705	34
1927	61, 367	1, 987	128, 543	50	5, 845	17	7, 652	11
1928	58, 155	1, 147	155, 322	8	8, 411	11	8, 032	9
1929	49, 523	1, 124	187, 204	----------	12, 037	14	10, 562	3

Year	Cusk		Halibut		Mackerel		Flounders
	Fresh	Salted	Fresh	Salted	Fresh	Salted	Fresh
1893	9, 110	174	7, 964	1, 829	552	8, 744	----------
1894	10, 454	191	9, 378	1, 527	936	7, 077	----------
1895	5, 566	255	8, 660	1, 062	553	4, 033	----------
1896	3, 322	305	9, 689	1, 207	1, 136	10, 484	----------
1897	3, 049	144	8, 329	1, 572	1, 146	1, 784	----------
1898	4, 918	107	8, 381	1, 997	874	2, 222	----------
1899	3, 411	228	8, 236	789	1, 230	3, 862	----------
1900	2, 018	131	7, 275	1, 569	8, 889	15, 966	----------
1901	2, 029	52	5, 065	463	2, 783	12, 013	----------
1902	1, 785	21	6, 326	753	2, 772	8, 139	----------
1903	2, 881	78	3, 622	832	2, 040	8, 032	----------
1904	5, 414	236	2, 437	853	2, 182	5, 184	----------
1905	8, 797	231	2, 952	515	3, 499	5, 645	----------
1906	5, 101	230	4, 019	636	1, 740	2, 100	----------
1907	7, 027	72	3, 293	904	4, 091	6, 386	----------
1908	5, 067	141	3, 179	947	5, 508	3, 467	----------
1909	3, 148	185	3, 589	860	4, 121	3, 458	----------
1910	4, 504	191	2, 988	1, 036	583	610	----------
1911	6, 433	248	3, 091	411	3, 099	1, 439	----------
1912	6, 317	163	3, 060	481	2, 660	1, 548	----------
1913	5, 816	144	4, 756	532	4, 293	1, 383	400
1914	5, 747	112	3, 063	317	3, 980	2, 708	863
1915	6, 236	95	3, 584	286	7, 345	3, 574	652
1916	6, 017	52	3, 364	95	10, 832	5, 075	1, 298
1917	3, 525	24	1, 724	42	12, 032	5, 410	1, 280
1918	2, 644	14	1, 770	11	7, 583	2, 576	2, 270
1919	2, 025	38	2, 100	15	4, 315	1, 398	2, 452
1920	1, 849	6	3, 768	22	6, 284	1, 008	3, 638
1921	2, 060	38	5, 618	48	2, 735	650	2, 605
1922	2, 194	54	5, 608	16	4, 266	460	3, 281
1923	2, 911	87	4, 873	2	10, 684	881	3, 437
1924	3, 344	62	4, 422	1	8, 474	1, 283	4, 335
1925	3, 606	107	3, 553	8	24, 115	2, 095	6, 638
1926	2, 694	34	3, 426	5	35, 123	1, 109	6, 779
1927	2, 693	34	4, 773	6	31, 354	176	8, 359
1928	2, 350	7	3, 382	4	24, 165	88	10, 414
1929	3, 471	12	2, 695	(1)	37, 521	222	10, 788

andings *by fishing vessels at Boston, Gloucester, and Portland, 1893 to 1929*—Continued

[Expressed in thousands of pounds, that is, 000 omitted]

BY SPECIES—Continued

Year	Herring		Swordfish		Other		Total	
	Fresh	Salted	Fresh	Salted	Fresh	Salted	Fresh	Salted
93	-----	-----	-----	-----	1,045	837	95,996	46,400
94	799	1,224	417	-----	285	99	121,119	45,996
95	-----	-----	-----	-----	1,717	1,869	99,677	50,762
96	-----	-----	-----	-----	1,549	620	83,745	46,929
97	-----	-----	-----	-----	8,354	2,926	95,664	31,201
98	6,138	4,244	-----	-----	1,448	392	107,881	35,523
99	6,082	7,412	-----	-----	2,730	91	127,274	49,500
00	-----	-----	-----	-----	5,184	7,276	107,183	55,036
01	1,719	10,030	-----	-----	1,475	2,157	96,439	54,726
02	2,637	10,023	-----	-----	2,091	1,395	117,223	50,731
03	3,097	7,887	-----	-----	2,847	1,790	111,442	46,050
04	2,917	16,270	2,151	3	117	-----	125,771	45,395
05	6,882	8,569	2,009	-----	172	14	169,535	35,352
06	5,273	10,935	928	-----	517	12	136,518	33,884
07	5,402	15,614	2,044	-----	2,142	-----	151,775	39,797
08	6,708	8,629	1,358	-----	880	-----	144,596	36,869
09	4,421	9,278	1,637	-----	1,059	27	124,631	48,471
0	4,994	14,720	1,039	-----	592	-----	138,043	43,692
1	6,399	16,752	1,503	-----	1,807	11	144,864	40,288
2	5,885	10,005	1,810	-----	3,297	-----	151,421	31,283
3	2,070	9,677	2,376	5	2,875	-----	133,970	28,247
4	4,910	5,839	1,500	-----	3,059	-----	141,575	21,014
5	4,346	8,931	2,239	-----	3,222	(1)	147,075	24,521
6	11,410	7,223	1,773	-----	5,732	1	165,321	20,503
7	6,817	6,322	1,973	-----	3,858	-----	156,783	18,647
8	8,764	6,233	1,034	-----	2,265	-----	193,024	12,477
9	6,858	3,502	883	-----	1,702	11	186,543	9,938
0	3,901	3,097	2,532	-----	1,348	-----	170,167	8,113
1	2,262	351	1,598	-----	491	1	144,259	6,606
2	752	1,892	3,282	-----	2,178	44	152,189	7,685
3	264	1,219	2,455	-----	561	9	168,216	6,746
4	1,467	2,943	2,023	-----	873	-----	175,821	7,127
5	1,542	2,400	1,527	-----	1,046	-----	209,017	7,852
6	1,266	315	2,442	-----	710	-----	232,247	6,179
7	2,735	4,410	2,246	-----	1,591	-----	257,158	6,691
8	706	1,411	2,544	-----	1,816	-----	275,297	2,685
9	1,038	3,518	4,593	-----	2,771	-----	322,203	4,893

BY PORTS

Year	Boston		Gloucester		Portland		Total	
	Fresh	Salted	Fresh	Salted	Fresh	Salted	Fresh	Salted
3	66,518	1,077	29,478	45,323	-----	-----	95,996	46,400
4	86,129	1,335	34,990	44,661	-----	-----	121,119	45,996
5	73,612	195	26,065	50,567	-----	-----	99,677	50,762
6	61,820	1,256	21,925	45,673	-----	-----	83,745	46,929
7	62,704	199	32,960	31,002	-----	-----	95,664	31,201
8	53,494	1,186	54,387	34,337	-----	-----	107,881	35,523
9	63,450	1,274	63,824	48,226	-----	-----	127,274	49,500
0	63,648	3,173	43,535	51,863	-----	-----	107,183	55,036
1	56,855	2,137	39,584	52,589	-----	-----	96,439	54,726
2	77,608	1,365	39,615	49,366	-----	-----	117,223	50,731
3	78,383	1,883	33,059	44,167	-----	-----	111,442	46,050
4	81,183	911	44,588	44,484	-----	-----	125,771	45,395
5	101,085	222	68,450	35,130	-----	-----	169,535	35,352
6	89,610	83	46,908	33,801	-----	-----	136,518	33,884
7	87,717	394	64,058	39,403	-----	-----	151,775	39,797
8	94,713	947	49,883	35,922	-----	-----	144,596	36,869
9	92,085	491	32,546	47,980	-----	-----	124,631	48,471
0	102,059	31	35,984	43,661	-----	-----	138,043	43,692
1	93,629	131	51,235	40,157	-----	-----	144,864	40,288
2	100,157	143	51,264	31,140	-----	-----	151,421	31,283
3	92,202	149	41,768	28,098	-----	-----	133,970	28,247
4	92,231	113	49,344	20,901	-----	-----	141,575	21,014
5	97,397	502	49,678	24,019	-----	-----	147,075	24,521
6	98,255	76	46,515	20,165	20,551	262	165,321	20,503

Less than 500 pounds.

OTE.—Prior to 1916, Portland landings are lacking.

Landings by fishing vessels at Boston, Gloucester, and Portland, 1893 to 1929—Continued

[Expressed in thousands of pounds, that is, 000 omitted]

BY PORTS—Continued

Year	Boston		Gloucester		Portland		Total	
	Fresh	Salted	Fresh	Salted	Fresh	Salted	Fresh	Salted
1917	98, 155	495	40, 062	18, 073	18, 566	79	156, 783	18, 647
1918	109, 227	249	62, 002	12, 173	21, 795	55	193, 024	12, 477
1919	103, 209	183	61, 621	9, 749	21, 713	6	186, 543	9, 938
1920	118, 302	257	39, 113	7, 627	12, 752	229	170, 167	8, 113
1921	104, 277	91	26, 747	6, 269	13, 235	246	144, 259	6, 606
1922	106, 032	158	30, 395	7, 355	15, 762	172	152, 189	7, 685
1923	123, 982	253	29, 012	6, 018	15, 222	475	168, 216	6, 746
1924	130, 631	335	29, 263	6, 583	15, 927	209	175, 821	7, 127
1925	148, 723	315	42, 161	7, 311	18, 133	226	209, 017	7, 852
1926	167, 061	257	49, 222	5, 679	15, 964	243	232, 247	6, 179
1927	194, 877	64	46, 056	6, 497	16, 225	130	257, 150	6, 691
1928	218, 353	34	39, 407	2, 497	17, 536	154	275, 297	2, 685
1929	255, 623	99	49, 135	4, 745	17, 445	50	322, 203	4, 893

NOTE.—Prior to 1916, Portland landings are lacking.

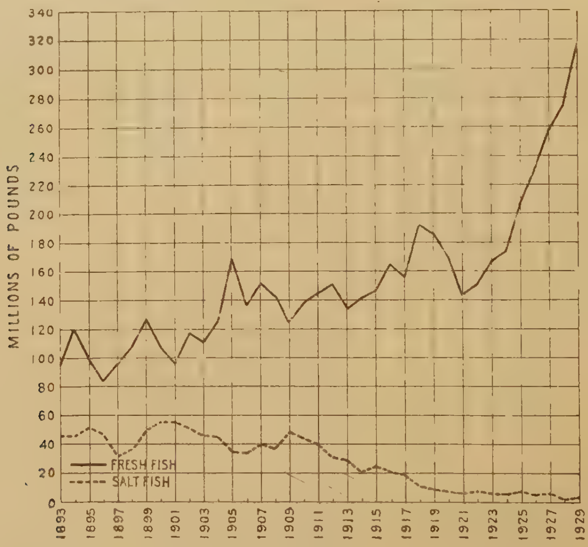

FIGURE 16.—Landings of fresh and salted fish by fishing vessels at the principal New England ports

BIOLOGICAL ASPECT

The fishing grounds of the North Atlantic, extending from Flemish Cap in 40° 06′ west longitude and 47° north latitude for a distance of about 2,000 miles to New York, provide an almost continuous extent of most productive fishing grounds. Fishing vessels landing fares at Boston and Gloucester, Mass., and Portland, Me., make their catches on certain of these grounds. A discussion of the activities of these vessels during 1929 is contained in this section.

In 1929 the fishing fleet landing fares at the three New England ports numbered 438 steam, motor, and sail vessels, of over 5 net tons, s measured by the United States Customs Service. These made 1,882 trips to the fishing grounds, and were absent from port 55,880 lays, or, on the average, about 4.7 days per trip. Their catches of dible fish landed at the three ports amounted to 329,977,722 pounds vhen the salted fish had been converted to the basis of fresh gutted ish. This does not represent the entire catch of edible fish of these essels, for small quantities, estimated at not more than 5 per cent f their total catch, were landed at ports in New England, other han these three, at New York City, and at ports in New Jersey.

The fishing vessels landing fares at these three ports did not always perate the same type of gear throughout the entire year. At one eason a certain vessel may be outfitted as a line trawler; at another eason as a purse seiner; and at still another season for swordfishing vith harpoons. Thus, vessels may be fished with two or more types f gear during the course of a year. In such a case the vessel is classed vith others operating similar gear, while it is fishing that type of gear.

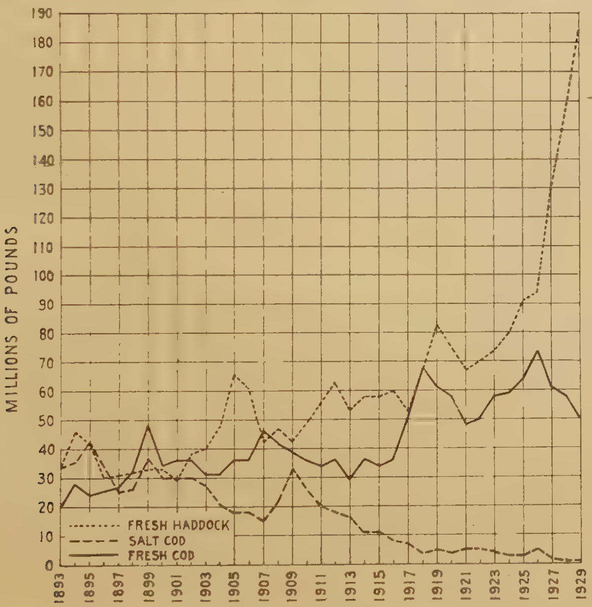

FIGURE 17.—Landings of cod and haddock by fishing vessels at the principal New England ports, 1893 to 1929. (Landings of salted haddock never reach over 650,000 pounds in any year and therefore have been omitted)

From the tables it will be noted that the grand total of the number f vessels operated is exclusive of duplication, and that the total umber of vessels operating each type of gear also is shown.

Line trawls.—A line-trawl fishery was prosecuted by 106 vessels in 929. These vessels made 1,824 trips to 23 main fishing grounds, and vere absent from port 11,518 days, or an average of about 6.3 days er trip. Their catches aggregated 69,935,942 pounds, or 21 per ent of the total landings by vessels at the three ports. Of this mount, haddock constituted 44 per cent, cod 34 per cent, and hake 1 per cent. Other species of importance in the catch by line trawls were cusk, halibut, and pollock. Of the total catch, 43 per cent were taken in South Channel, 21 per cent on Browns Bank, and 13 per cent on Georges Bank. Other banks on which considerable quantities of fish were taken by line trawls were Jeffreys Ledge and Sable Island Bank.

Hand lines.—A hand-line fishery was prosecuted by 31 vessels in 1929. These vessels made 274 trips to nine main fishing grounds, and were absent from port, 2,221 days, or an average of about 8.1 days per trip. Their catches aggregated 9,036,327 pounds, or 3 per cent of the total landings at the three ports. Of this amount, cod constituted 82 per cent, haddock 9 per cent, and pollock 5 per cent. Only minor amounts of other species were taken by hand lines. Of the total catch, 70 per cent were taken on Georges Bank and 13 per cent on Nantucket Shoals. Other grounds on which considerable quantities of fish were taken by hand lines are Cape Shore and Browns Bank.

Harpoons.—A fishery with harpoons was prosecuted by 81 vessels in 1929. These vessels made 296 trips to 5 main fishing grounds, and were absent from port 4,557 days, or an average of about 15.3 days per trip. Their catch amounted to 4,464,613 pounds of swordfish and 7,258 pounds of other fish, or a total a little over 1 per cent of the total landings by vessels at the three ports. Of the total catch, 91 per cent were taken on Georges Bank.

Otter trawls, large vessels.—A fishery with otter trawls was prosecuted by 64 vessels of 91 net tons and over in 1929. These vessels made 1,240 trips to eight main fishing grounds, and were absent from port 10,839 days, or an average of 8.7 days per trip (7.7 days in 1928). This is an increase of 21 vessels over the number operated in 1928, an increase of 24 per cent in the number of trips, and an increase of 39 per cent in the number of days absent. The catch amounted to 92,674,689 pounds, or 28 per cent of the total landings by vessels at the three ports. Of the total 81 per cent consisted of haddock, 10 per cent of cod, 3 per cent each of flounders, hake, and pollock. Only minor quantities of other species were taken by large otter trawls. Of the total catch, 66 per cent were taken on Georges Bank and 30 per cent on South Channel. Only minor catches were made on the other grounds where large otter trawlers fished.

Cod, haddock, and hake landed at Boston and Gloucester, Mass., and Portland, Me., by large otter trawlers and large V–D otter trawlers in various years, 1908 to 1929

Year	Trips	Cod	Haddock	Hake	Year	Trips	Cod	Haddock	Hake
		Pounds	*Pounds*	*Pounds*			*Pounds*	*Pounds*	*Pounds*
1908	44	209, 800	1, 542, 000	46, 600	1922	578	11, 161, 947	35, 878, 524	576, 37
1909	47	159, 800	1, 719, 000	74, 400	1923	665	14, 961, 590	35, 527, 297	471, 60
1910	59	125, 850	2, 775, 000	46, 600	1924	543	8, 231, 430	35, 197, 940	616, 85
1911	178	564, 500	7, 367, 100	151, 700	1925	607	7, 309, 930	44, 034, 281	711, 21
1912	295	1, 952, 950	12, 966, 700	105, 500	1926	667	5, 203, 911	52, 405, 653	894, 88
1913	326	1, 667, 806	12, 488, 992	209, 485	1927	794	3, 982, 905	69, 237, 652	994, 73
1914	387	1, 149, 595	15, 383, 550	259, 913	1928	1, 010	6, 295, 138	75, 876, 486	1, 455, 67
1920	646	6, 311, 389	51, 962, 457	---------	1929	1, 240	8, 884, 698	74, 776, 042	2, 569, 05
1921	346	2, 482, 833	26, 734, 893	241, 650					

Otter trawls, medium vessels.—A fishery with otter trawls was also prosecuted by 96 vessels of 21 to 90 net tons, inclusive, in 1929

Iedium large trawlers are referred to by some in the fisheries as draggers." These vessels made 1,064 trips to 12 main fishing grounds ıd were absent from port 6,673 days, or an average of 6.3 days per ip. Their catches aggregated 32,423,005 pounds, or about 10 per ent of the total landings by vessels at the three ports. Of this, addock constituted 82 per cent, flounders 9 per cent, and cod 6 per ent. Only minor quantities of other species were taken by medium ter trawlers. Of the total catch, 63 per cent were taken on Georges ank, and 28 per cent on South Channel. Only minor quantities ere taken on the other grounds where this type of vessel fished.

Otter trawls, small vessels.—A fishery with otter trawls was also osecuted by 96 vessels of 5 to 20 net tons, inclusive, in 1929. Small ter trawlers are referred to by some in the fisheries as "flounder aggers." These vessels made 850 trips to nine main fishing grounds, ıd were absent from port 3,040 days, or an average of 3.6 days per ip. Their catches aggregated 8,212,090 pounds, or about 3 per cent the total landings by vessels at the three ports. Of this amount, per cent consisted of haddock, and 38 per cent of flounders. Of the tal catch, 43 per cent were taken on banks along the shore, 31 per nt on Georges Bank, and 15 per cent on South Channel.

V–D trawls (*otter trawls*), *large vessels.*—A fishery with V–D otter awls was prosecuted by 26 vessels of 91 net tons and over in 1929. hese vessels made 305 trips to four main fishing grounds, and were sent from port 2,362 days, or an average of 7.7 days per trip. heir catches aggregated 26,847,877 pounds, or 8 per cent of the total ndings by vessels at the three ports. Of this amount, 86 per cent nsisted of haddock, and 8 per cent of cod. Of the total catch, 61 r cent were taken on Georges Bank and 32 per cent on South Channel.

V–D trawls (*otter trawls*), *medium vessels.*—A fishery with V–D otter awls was prosecuted by 41 vessels of 21 to 90 net tons, inclusive, in 29. These vessels made 695 trips to eight main fishing grounds, and ere absent from port 4,991 days, or an average of 7.2 days per trip. ıeir catches amounted to 28,253,826 pounds, or, about 9 per cent of e total landings by vessels at the three ports. Of this amount, 89 r cent consisted of haddock, and 5 per cent consisted of cod. The mainder was made up chiefly of flounders, hake, and pollock. Of e total catch, 60 per cent were made on Georges Bank, and 36 per nt on South Channel. Only very minor quantities were taken on e other banks where these vessels fished.

V–D trawls (*otter trawls*), *small vessels.*—A fishery with V–D otter ıwls was prosecuted by 3 vessels of 5 to 20 net tons, inclusive, in 1929. ıese vessels made nine trips to four main fishing grounds, and were sent from port 60 days, or an average of 6.7 days per trip. Their tch aggregated 220,758 pounds, and consisted almost entirely of ddock, and were taken mainly on Georges Bank.

Sink gill nets.—A fishery with sink gill nets was prosecuted by 49 ssels in 1929. These made 3,318 trips to four main fishing grounds, d were absent from port 3,487 days, or an average of about 1 y per trip. The catch amounted to 13,073,990 pounds, or 4 per nt of the total landings by vessels at the three ports. Of this amount per cent consisted of pollock, 38 per cent of cod, and 9 per cent of ddock. Only minor quantities of other species were taken with this pe of gear. Of the total catch, 92 per cent were made on those unds near the shore.

Drift gill nets.—A fishery with drift gill nets was prosecuted by 9
vessels in 1929. They made 501 trips to three main fishing grounds
and were absent from port 1,411 days, or an average of 2.8 days pe
trip. Their catch amounted to 6,117,493 pounds, or about 2 per cen
of the total landings by vessels at the three ports. Of this amount
86 per cent consisted of herring, which were taken on Bay of Island
fishing grounds. The remainder consisted mostly of mackerel, whic
were taken on grounds near the shore.

Purse seines.—A fishery with purse seines (mackerel fishery) wa
prosecuted by 113 vessels in 1929. They made 1,504 trips to 14 mai
fishing grounds, and were absent from port 4,712 days, or an averag
of about 3.1 days per trip. Their landings at the three New Englan
ports amounted to 38,704,258 pounds, or 12 per cent of the tota
landings by vessels at these ports. Of this amount, 95 per cent con-
sisted of mackerel, and the remainder mostly of herring. Of the total
51 per cent were taken on shore grounds and 26 per cent on Sout
Channel. Only minor quantities were taken on other banks wher
these vessels fished.

Scallop drags or trawls.—A fishery with scallop drags or trawls wa
prosecuted by two vessels in 1929. These made two trips to Bosto
and were absent from port nine days. The catch consisted of 5,59
pounds of scallop meats, and was taken on Georges Bank and bank
along the shore.

Summary.—In general, regular otter trawls were the most importan
gear used by the vessels landing fish at the three New England ports
catching 40 per cent of the total landings. Line trawls were next i
importance, catching 21 per cent of the total. The various sizes o
V–D otter trawl vessels caught 17 per cent; purse seines, 12 per cent
sink gill nets, 4 per cent; hand lines, 3 per cent; and harpoons, dri
gill nets, and scallop drags the remaining 3 per cent.

Among the fishing grounds Georges Bank was the most importan
furnishing 42 per cent of the fish caught by the vessels. Sout
Channel, which is near Georges Bank, was second, and furnished 2
per cent. In 1928 the best fishing was on South Channel. Shor
grounds furnished 12 per cent, and Browns Bank 5 per cent. All o
these grounds are off the United States. The catch on any one o
the other banks or grounds where fishing was prosecuted by the vesse
furnished less than 7,500,000 pounds each.

The fishery products landed at the three ports by vessels are take
chiefly on fishing grounds off the United States west of 66° we
longitude. In 1929 these grounds furnished 95 per cent of the tot
landings by vessels at the three ports.

Those fishing grounds off Canadian Provinces east of 66° we
longitude furnished 3 per cent, while those off Newfoundland, al
east of 66° west longitude, furnished 2 per cent. The large catch o
grounds off the United States is due chiefly to the large catches b
otter trawlers on Georges Bank, South Channel, and Nantuck
Shoals, which fishing grounds are suited to this type of gear, an
which are comparatively near packing centers. Compared with 192
there was an increase of 21 per cent in the landings of fish taken o
grounds off the United States, a decrease of 43 per cent in the landin
of fish taken off Canadian Provinces, and an increase of 54 per ce
in the landings of fish taken off Newfoundland, the latter being d
principally to the large amount of herring taken on these grounds.

BY GEAR AND FISHING GROUNDS

Gear and fishing grounds	Vessels fishing	Trips	Days absent	Cod			Haddock		Hake	
				Large	Market	Scrod	Large	Scrod	Large	Small
	Number	*Number*	*Number*	*Pounds*	*Pounds*	*Pounds*	*Pounds*	*Pounds*	*Pounds*	*Pounds*
Line trawls:										
Grand Bank	11	24	637	486, 115	44, 484				3, 550	
Green Bank	2	3	74	6, 945	537				6, 660	1, 089
St. Peters Bank	3	7	174	160					1, 425	
Off Newfoundland	1	1	45							
Labrador coast	2	2	84	10, 450	3, 783					
Gulf of St. Lawrence	3	4	156	173, 892	23, 232				75	
Scatari Bank	1	1	33	7, 410	825					
Quereau Bank	2	3	51	55, 246	6, 537				2, 300	733
The Gully	2	3	46	5, 320						
Sable Island Bank (Western Bank)	8	18	354	1, 169, 237	840, 720		178, 285		18, 267	
Cape Shore	7	12	124	111, 780	102, 400	180	357, 260		33, 820	
La Have Bank	15	27	345	511, 521	328, 601		781, 825	4, 400	84, 563	
Browns Bank	38	209	2, 096	3, 068, 704	1, 674, 513	18, 750	7, 871, 150	8, 900	342, 365	170
Georges Bank	49	161	1, 681	4, 879, 104	624, 856	375	2, 516, 685	19, 880	86, 019	
South Channel	48	538	3, 314	4, 744, 215	3, 428, 498	12, 390	14, 550, 602	47, 705	4, 921, 710	
Off Chatham	10	20	120	46, 845	30, 595	300	529, 225	3, 600	33, 490	
Nantucket Shoals	6	9	72	107, 215	171, 780	2, 850	39, 400	1, 500		
Cashes Bank	31	89	360	314, 100	88, 680	5, 825	480, 033	14, 299	407, 072	201, 572
Fippenies Bank	8	14	48	46, 400	15, 935	120	81, 530	1, 780	51, 600	34, 060
Platts Bank	10	51	117	86, 070	25, 445	2, 679	164, 529	9, 618	4, 300	254, 320
Jeffreys Ledge	30	315	702	232, 910	92, 508	13, 260	1, 608, 038	50, 380	86, 370	446, 683
Middle Bank (Stellwagen Bank)	14	88	328	101, 470	48, 572	1, 425	714, 175	16, 300	467, 950	
Shore, general	37	225	557	169, 844	68, 423	16, 876	748, 150	35, 580	26, 320	165, 784
Total	[1] 106	1, 824	11, 518	16, 334, 953	7, 620, 924	75, 030	30, 620, 887	213, 942	6, 577, 856	1, 104, 411
Hand lines:										
Grand Bank	1	1	29	22, 914	252				970	
Cape Shore	11	16	146	175, 060	252, 475	200	35, 190	2, 350	19, 550	
La Have Bank	1	1	8	8, 500	10, 500		38, 900			
Browns Bank	10	14	105	186, 675	246, 750		21, 095		175	
Georges Bank	19	181	1, 496	3, 164, 960	2, 098, 568	5, 600	531, 790	9, 125	5, 080	
South Channel	5	6	45	70, 050	70, 550		97, 650		8, 900	
Nantucket Shoals	10	53	388	505, 012	602, 290	11, 355	35, 720	3, 750	15, 775	
Middle Bank (Stellwagen Bank)	1	1	3	740	1, 500		9, 750		6, 900	
Shore, general	1	1	1	315	195	5	9			8
Total	[1] 31	274	2, 221	4, 134, 226	3, 283, 080	17, 160	770, 104	15, 225	57, 350	8

[1] Exclusive of duplication.

Landings by fishing vessels at the three principal New England ports, 1929—Continued

BY GEAR AND FISHING GROUNDS—Continued

Gear and fishing grounds	Vessels fishing	Trips	Days absent	Cod			Haddock		Hake	
				Large	Market	Scrod	Large	Scrod	Large	Small
	Number	*Number*	*Number*	*Pounds*	*Pounds*	*Pounds*	*Pounds*	*Pounds*	*Pounds*	*Pounds*
Harpoons:										
Cape Shore	7	7	145							
Browns Bank	13	13	202							
Georges Bank	79	270	4,127							
Nantucket Shoals	1	1	9							
Shore, general	5	5	74							
Total	[1] 81	296	4,557							
Otter trawls, large:										
Sable Island Bank (Western Bank)	1	1	10	1,400	2,850	1,100	42,300	8,100	375	
La Have Bank	18	25	273	60,765	97,535	2,230	1,108,630	132,640	43,285	
Browns Bank	1	1	11	1,940	1,690		35,450	550	270	
Georges Bank	59	762	6,625	3,515,153	2,532,970	49,335	47,222,528	3,314,132	1,151,959	6,335
Clark Bank	1	1	5	1,470	430	100	27,895	2,950	145	
South Channel	49	423	3,667	1,380,515	1,145,790	24,005	20,166,344	1,465,245	1,314,345	3,222
Nantucket Shoals	16	26	242	18,915	33,005	7,975	1,164,763	48,815	42,615	
Middle Bank (Stellwagen Bank)	1	1	6	4,025	1,500		34,500	1,200	6,500	
Total	[1] 64	1,240	10,839	4,984,183	3,815,770	84,745	69,802,410	4,973,632	2,559,494	9,557
Otter trawls, medium:										
Cape Shore	1	1	17	31,800	27,600		5,000		1,000	
La Have Bank	2	2	18	3,080	5,600		108,310	5,240	175	
Browns Bank	2	2	15	13,150	10,720		96,630	7,000	400	
Georges Bank	66	526	3,785	566,934	464,844	12,210	16,323,727	1,094,220	111,000	5,250
Clark Bank	1	1	6	4,500	800		41,000			
South Channel	52	269	1,838	237,933	396,278	14,690	6,876,034	364,815	204,845	
Off Chatham	11	21	125	16,580	8,150		197,400	19,705	14,800	
Nantucket Shoals	23	55	376	24,645	199,285	18,135	922,882	45,775	12,550	
Platts Bank	1	1	3	870	1,250		17,085	1,350		1,970
Jeffreys Ledge	2	3	9	1,175	625		16,550	960	3,090	
Middle Bank (Stellwagen Bank)	1	1	3	250	100		5,500	55	3,600	
Shore, general	30	182	478	47,386	41,614	570	432,005	34,345	21,065	404
Total	[1] 96	1,064	6,673	948,303	1,156,866	45,605	25,042,123	1,573,465	372,525	7,624

Seal Island Grounds	1	1	2	20			650	45		35
Browns Bank	1	1	5		200		35, 000	5, 500		
Georges Bank	16	97	664	45, 825	54, 190	3, 430	1, 884, 125	120, 455	13, 920	
South Channel	16	57	343	39, 253	78, 380	4, 775	859, 636	31, 810	17, 445	
Off Chatham	6	10	51	3, 191	3, 345		78, 120	2, 850	2, 025	
Nantucket Shoals	21	49	293	10, 372	50, 180	7, 895	161, 745	12, 680	3, 030	
Jeffreys Ledge	3	3	12	285	250		13, 080	430	250	
Middle Bank (Stellwagen Bank)	6	8	24	4, 325	2, 140	70	7, 745	610	1, 700	
Shore, general	82	624	1, 646	100, 413	100, 075	11, 356	1, 029, 662	31, 440	88, 703	23, 939
Total	[1] 96	850	3, 040	203, 684	288, 760	27, 526	4, 069, 763	205, 820	127, 073	23, 974
V-D trawls, large:										
La Have Bank	4	5	50	12, 900	20, 345	850	231, 700	34, 300	4, 165	
Georges Bank	17	173	1, 322	856, 820	579, 740	950	13, 184, 629	1, 047, 115	152, 021	
South Channel	15	105	795	303, 012	271, 090	1, 500	6, 714, 900	595, 930	161, 365	
Nantucket Shoals	10	22	195	23, 450	26, 040	2, 050	1, 337, 970	52, 910	20, 075	
Total	[1] 26	305	2, 362	1, 196, 182	897, 215	5, 350	21, 469, 199	1, 730, 255	337, 626	
V-D trawls, medium:										
La Have Bank	5	6	53	7, 945	12, 200		219, 900	11, 100	5, 300	
Browns Bank	2	2	16	1, 900	3, 950		108, 100	5, 700		
Georges Bank	36	389	2, 781	444, 683	360, 760	7, 845	14, 271, 591	1, 016, 400	179, 880	
Clark Bank	4	5	32	1, 235	2, 150	200	103, 350	4, 325	6, 225	
South Channel	36	272	1, 960	358, 332	316, 545	4, 985	8, 353, 475	633, 965	231, 727	
Off Chatham	9	11	72	7, 925	4, 425		194, 328	18, 340	12, 375	
Nantucket Shoals	7	8	63	3, 825	4, 155		236, 895	9, 670	5, 200	
Shore, general	2	2	14	80	200		94. 950	3, 825		
Total	[1] 41	695	4, 991	825, 925	704, 385	13, 030	25, 582, 589	1, 703, 325	440, 707	
V-D trawls, small:										
Georges Bank	2	5	37	4, 390	8, 300	600	106, 650	10, 450	2, 850	
South Channel	1	2	12		330		32, 000	4, 500	200	
Nantucket Shoals	1	1	6	400	1, 000	3, 000	8, 500	400	75	
Shore, general	1	1	5		225		11, 200	1, 000	900	
Total	[1] 3	9	60	4, 790	9, 855	3, 600	158, 350	16, 350	4, 025	
Sink gill nets:										
Platts Bank	1	1	1	890						310
Jeffreys Ledge	10	186	206	320, 460	11, 371	35	15, 150	250	2, 107	76, 924
Middle Bank (Stellwagen Bank)	16	63	66	198, 235						
Shore, general	48	3, 068	3, 214	4, 326, 488	72, 864	530	1, 230, 839	835	276, 290	80, 660
Total	[1] 49	3, 318	3, 487	4, 846, 073	84, 235	565	1, 245, 989	1, 085	278, 397	157, 894

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[1] Exclusive of duplication.

Landings by fishing vessels at the three principal New England ports, 1929—Continued

BY GEAR AND FISHING GROUNDS—Continued

Gear and fishing grounds	Vessels fishing	Trips	Days absent	Cod			Haddock		Hake	
				Large	Market	Scrod	Large	Scrod	Large	Small
	Number	*Number*	*Number*	*Pounds*	*Pounds*	*Pounds*	*Pounds*	*Pounds*	*Pounds*	*Pounds*
Drift gill nets:										
Bay of Islands	10	11	380							
South	13	13	55							
Shore, general	86	477	976	17,290					5,680	
Total	[1] 97	501	1,411	17,290					5,680	
Purse seines:										
Sable Island Bank (Western Bank)	1	1	1	8,550	21,100		9,220		100	
Cape Shore	11	15	118							
Georges Bank	33	44	230							
South Channel	72	320	1,209							
Off Highland Light	1	1	4							
Off Chatham	67	181	748							
Nantucket Shoals	9	9	46							
Cashes Bank	6	18	36		100					
Platts Bank	1	3	6							
Jeffreys Ledge	42	55	136	1,365						200
Ipswitch Bay	6	7	13							
Middle Bank (Stellwagen Bank)	1	1	3							
South	30	39	162							
Shore, general	109	810	2,000	2,599	1,395					
Total	[1] 113	1,504	4,712	12,514	22,595		9,220		100	200
Scallop drags:										
Georges Bank	1	1	5							
Shore, general	1	1	4							
Total	[1] 2	2	9							
Grand total	[1] 438	11,882	55,880	33,508,123	17,883,685	272,611	176,770,634	10,433,099	10,760,833	1,303,668

[1] Exclusive of duplication.

NOTE.—The three principal New England ports are Boston and Gloucester, Mass., and Portland, Me. Otter trawls and V-D trawls are classified according to the size of the vessel. The weight of salted fish landed has been converted to the equivalent of fresh fish as landed. Only landings by vessels having a capacity of 5 net tons or greater are used in this tabulation.

Gear and fishing grounds	Pollock	Cusk	Halibut	Flounders	Swordfish	Mackerel	Herring	Other	Total
Line trawls:	*Pounds*	*Pounds*	*Pounds*	*Pounds*	*Pounds*	*Pounds*	*Pounds*	*Pounds*	*Pounds*
Grand Bank	532	882	814, 930		14, 813			1, 945	1, 367, 251
Green Bank		1, 200	65, 520		679				82, 630
St. Peters Bank		380	227, 725						229, 690
Off Newfoundland			4, 383						4, 383
Labrador coast			49, 595						63, 828
Gulf of St. Lawrence	142	10, 932	21, 108						229, 381
Scatari Bank		2, 470	8, 791						19, 496
Quereau Bank	570	1, 058	37, 797		157				104, 398
The Gully			74, 166						79, 486
Sable Island Bank (Western Bank)	4, 055	12, 580	51, 862		258				2, 275, 264
Cape Shore	34, 720	20, 400	2, 845					2, 150	665, 555
La Have Bank	10, 006	125, 685	124, 322		2, 053			11, 420	1, 984, 396
Browns Bank	230, 216	758, 885	254, 181	929	31, 665			100, 340	14, 360, 768
Georges Bank	93, 335	107, 731	425, 792	14, 460	25, 782			8, 677	8, 802, 696
South Channel	746, 405	1, 110, 095	79, 674	28, 375				62, 946	29, 732, 615
Off Chatham	5, 640	4, 385	4, 731					3, 645	662, 456
Nantucket Shoals	1, 450		19, 789						343, 984
Cashes Bank	24, 995	394, 648	17, 798	255				45, 130	1, 994, 407
Fippenies Bank	2, 235	50, 465	501					4, 645	289, 271
Platts Bank	16, 357	59, 613	876					34, 457	658, 264
Jeffreys Ledge	84, 658	234, 647	2, 001	4, 330				141, 804	2, 997, 589
Middle Bank (Stellwagen Bank)	39, 485	125, 645	1, 383					5, 040	1, 521, 445
Shore, general	19, 630	127, 644	2, 142	19, 886				66, 410	1, 466, 689
Total	1, 314, 431	3, 149, 345	2, 291, 912	68, 235	75, 407			488, 609	69, 935, 942
Hand lines:									
Grand Bank			33, 426						57, 562
Cape Shore	59, 420	55, 395	1, 695		774			15, 440	617, 549
La Have Bank		1, 500	688						60, 088
Browns Bank	22, 045	19, 930	11, 206		2, 396			8, 315	518, 587
Georges Bank	287, 269	44, 955	91, 509	1, 325	21, 136			33, 400	6, 294, 717
South Channel	19, 875	1, 450	1, 481					620	270, 576
Nantucket Shoals	18, 435	600	1, 859		377			1, 800	1, 196, 973
Middle Bank (Stellwagen Bank)	550	140	63					100	19, 743
Shore, general									532
Total	407, 594	123, 970	141, 927	1, 325	24, 683			59, 675	9, 036, 327

Landings by fishing vessels at the three principal New England ports, 1929—Continued

BY GEAR AND FISHING GROUNDS—Continued

Gear and fishing grounds	Pollock	Cusk	Halibut	Flounders	Swordfish	Mackerel	Herring	Other	Total
	Pounds	*Pounds*	*Pounds*	*Pounds*	*Pounds*	*Pounds*	*Pounds*	*Pounds*	*Pounds*
Harpoons:									
Cape Shore					57, 091				57, 091
Browns Bank					282, 486				282, 486
Georges Bank					4, 071, 201			7, 258	4, 078, 459
Nantucket Shoals					3, 742				3, 742
Shore, general					50, 093				50, 093
Total					4, 464, 613			7, 258	4, 471, 871
Otter trawls, large:									
Sable Island Bank (Western Bank)	1, 250	45	130	90				1, 000	58, 640
La Have Bank	20, 125	2, 402	4, 118	40, 525				29, 380	1, 541, 635
Browns Bank	160			800					40, 860
Georges Bank	1, 318, 824	112, 975	107, 065	1, 900, 207	149	3, 130		314, 405	61, 549, 167
Clark Bank	200		119	200				160	33, 669
South Channel	1, 059, 945	46, 903	60, 909	1, 082, 060		7, 850		185, 480	27, 942, 613
Nantucket Shoals	20, 925	65	1, 001	103, 735		525		11, 175	1, 453, 514
Middle Bank (Stellwagen Bank)	850	350	206	5, 100				360	54, 591
Total	2, 422, 279	162, 740	173, 548	3, 132, 717	149	11, 505		541, 960	92, 674, 689
Otter trawls, medium:									
Cape Shore	500								65, 900
La Have Bank	400		223	1, 130				1, 850	126, 008
Browns Bank	800	3, 600		180					132, 480
Georges Bank	25, 870	1, 470	17, 497	1, 615, 299	13, 032	457		52, 693	20, 304, 503
Clark Bank				150					46, 450
South Channel	35, 715	1, 480	6, 687	752, 518	3, 884	878		41, 464	8, 937, 221
Off Chatham	975		162	45, 175				11, 235	314, 182
Nantucket Shoals	5, 750		146	342, 410				1, 035	1, 572, 613
Platts Bank	120			1, 315				1, 555	25, 515
Jeffreys Ledge	170	580		1, 680				200	25, 030
Middle Bank (Stellwagen Bank)	150	500						30	10, 185
Shore, general	29, 190	790	465	244, 874		5, 900		4, 310	862, 918
Total	99, 640	8, 420	25, 180	3, 004, 731	16, 916	7, 235		114, 372	32, 423, 005

Otter trawls, small:									
Seal Island Grounds				900					1,650
Browns Bank			21	6,000					46,721
Georges Bank	4,595	200	3,720	383,925	121			8,767	2,523,273
South Channel	865		2,712	170,605				13,589	1,219,070
Off Chatham	125		105	20,165				8,785	118,711
Nantucket Shoals	185		291	468,565				1,415	716,358
Jeffreys Ledge	50	500		1,900				1,706	18,451
Middle Bank (Stellwagen Bank)	50			14,175					30,815
Shore, general	5,560	423	8,095	2,091,540		35		45,800	3,537,041
Total	11,430	1,123	14,944	3,157,775	121	35		80,062	8,212,090
V-D trawls, large:									
La Have Bank	4,110	300	1,136	1,665				3,045	314,516
Georges Bank	193,030	18,025	18,606	359,345		68		70,596	16,480,945
South Channel	110,310	14,820	13,156	237,330		1,270		73,363	8,498,046
Nantucket Shoals	18,860	100	710	58,830		5,560		7,815	1,554,370
Total	326,310	33,245	33,608	657,170		6,898		154,819	26,847,877
V-D trawls, medium:									
La Have Bank	620	250	102	5,505				950	263,872
Browns Bank	200		116	1,050				430	121,446
Georges Bank	61,370	5,740	7,669	432,900	6,526	2,108		37,589	16,835,061
Clark Bank	3,470	175	175	4,025				160	125,490
South Channel	51,745	4,100	6,430	235,780	4,047	3,673		48,624	10,253,428
Off Chatham	4,710			17,850				3,845	263,798
Nantucket Shoals	1,050		115	24,085		220		335	285,550
Shore, general			101	6,025					105,181
Total	123,165	10,265	14,708	727,220	10,573	6,001		91,933	28,253,826
V-D trawls, small:									
Georges Bank			23	19,025				120	152,408
South Channel				1,370				300	38,700
Nantucket Shoals				2,100					15,475
Shore, general				75				775	14,175
Total			23	22,570				1,195	220,758
Sink gill nets:									
Platts Bank	1,625							200	3,025
Jeffreys Ledge	305,525	1,875	207	2,372				57,837	794,113
Middle Bank (Stellwagen Bank)									198,235
Shore, general	5,548,191	2,540	251	5,330		211,929	54,800	267,070	12,078,617
Total	5,855,341	4,415	458	7,702		211,029	54,800	325,107	13,073,990

Landings by fishing vessels at the three principal New England ports, 1929—Continued

BY GEAR AND FISHING GROUNDS—Continued

Gear and fishing grounds	Pollock	Cusk	Halibut	Flounders	Swordfish	Mackerel	Herring	Other	Total
	Pounds	*Pounds*	*Pounds*	*Pounds*	*Pounds*	*Pounds*	*Pounds*	*Pounds*	*Pounds*
Drift gill nets:									
Bay of Islands							5, 277, 240		5, 277, 240
South						74, 810		4, 000	78, 810
Shore, general	6, 130					729, 958		2, 385	761, 443
Total	6, 130					804, 768	5, 277, 240	6, 385	6, 117, 493
Purse seines:									
Sable Island Bank (Western Bank)	645								39, 615
Cape Shore						881, 300			881, 300
Georges Bank						979, 873	6, 000		985, 873
South Channel				8, 320		10, 085, 980	35, 750	340	10, 130, 390
Off Highland Light						49, 000			49, 000
Off Chatham					500	3, 733, 353	13, 000	93, 489	3, 840, 342
Nantucket Shoals						214, 730			214, 730
Cashes Bank						37, 401	219, 500	45, 400	302, 401
Platts Bank							23, 700		23, 700
Jeffreys Ledge	75					1, 372, 105	21, 000	44, 578	1, 439, 323
Ipswitch Bay						53, 110			53, 110
Middle Bank (Stellwagen Bank)						7, 310			7, 310
South						896, 365			896, 365
Shore, general	450					18, 462, 292	664, 100	709, 963	19, 840, 799
Total	1, 170			8, 320	500	36, 772, 819	983, 050	893, 770	38, 704, 258
Scallop drags:									
Georges Bank								3, 600	3, 600
Shore, general								1, 996	1, 996
Total								5, 596	5, 596
Grand total	10, 567, 490	3, 493, 523	2, 696, 308	10, 787, 765	4, 592, 962	37, 821, 190	6, 315, 090	2, 770, 741	329, 977, 722

Fishing grounds	Vessels fishing	Trips	Days absent	Cod			Haddock		Hake	
				Large	Market	Scrod	Large	Scrod	Large	Small
East of 66° W. longitude										
Off Newfoundland:	*Number*	*Number*	*Number*	*Pounds*	*Pounds*	*Pounds*	*Pounds*	*Pounds*	*Pounds*	*Pounds*
Grand Bank	11	25	666	509, 029	44, 736				4, 520	
Green Bank	2	3	74	6, 945	537				6, 660	1, 089
St. Peters Bank	3	7	174	160					1, 425	
Bay of Islands	10	11	380							
Off Newfoundland	1	1	45							
Total	[1] 22	47	1, 339	516, 134	45, 273				12, 605	1, 089
Off Canada:										
Seal Island Grounds	1	1	2	20			650	45		35
Labrador Coast	2	2	84	10, 450	3, 783					
Gulf of St. Lawrence	3	4	156	173, 892	23, 232				75	
Scatari Bank	1	1	33	7, 410	825					
Quereau Bank	2	3	51	55, 246	6, 537				2, 300	733
The Gully	2	3	46	6, 320						
Sable Island Bank (Western Bank)	10	20	365	1, 179, 187	864, 670	1, 100	229, 805	8, 100	18, 742	
Cape Shore	35	51	550	318, 640	382, 475	380	397, 450	2, 350	54, 370	
La Have Bank	43	66	747	604, 711	474, 781	3, 080	2, 489, 265	187, 680	137, 488	
Total	[1] 80	151	2, 034	2, 354, 876	1, 756, 303	4, 560	3, 117, 170	198, 175	212, 975	768
West of 66° W. longitude										
Off United States:										
Browns Bank	61	242	2, 450	3, 272, 369	1, 937, 823	18, 750	8, 167, 425	27, 650	343, 210	170
Georges Bank	277	2, 609	22, 753	13, 477, 869	6, 724, 228	80, 345	96, 041, 725	6, 631, 777	1, 702, 729	11, 585
Clark Bank	6	7	43	7, 205	3, 380	300	172, 245	7, 275	6, 370	
South Channel	239	1, 992	13, 183	7, 133, 310	5, 707, 461	62, 345	57, 650, 641	3, 143, 970	6, 860, 537	3, 222
Off Highland Light	1	1	4							
Off Chatham	100	243	1, 116	74, 541	46, 515	300	999, 073	44, 495	62, 690	
Nantucket Shoals	98	233	1, 690	693, 834	1, 087, 735	53, 260	3, 907, 875	175, 500	99, 320	
Cashes Bank	37	107	396	314, 100	88, 780	5, 825	480, 033	14, 299	407, 072	201, 572
Fippenies Bank	8	14	48	46, 400	15, 935	120	81, 530	1, 780	51, 600	34, 060
Platts Bank	13	56	127	87, 830	26, 695	2, 679	181, 614	10, 968	4, 300	256, 600
Jeffreys Ledge	82	562	1, 065	556, 195	104, 754	13, 295	1, 652, 818	52, 020	91, 817	523, 807
Ipswitch Bay	6	7	13							
Middle Bank (Stellwagen Bank)	37	163	433	309, 045	53, 812	1, 495	771, 670	18, 165	486, 650	
South	40	52	217							
Shore, general	241	5, 396	8, 969	4, 664, 415	284, 991	29, 337	3, 546, 815	107, 025	418, 958	270, 795
Total	[1] 430	11, 684	52, 507	30, 637, 113	16, 082, 109	268, 051	173, 653, 464	10, 234, 924	10, 535, 253	1, 301, 811
Grand total	[1] 438	11, 882	55, 880	33, 508, 123	17, 883, 685	272, 611	176, 770, 634	10, 433, 099	10, 760, 833	1, 303, 668

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[1] Exclusive of duplication.

Landings by fishing vessels at the three principal New England ports, 1929—Continued

SUMMARY: BY FISHING GROUNDS—Continued

Fishing grounds	Pollock	Cusk	Halibut	Flounders	Swordfish	Mackerel	Herring	Other	Total
East of 66° W. longitude									
Off Newfoundland:	*Pounds*	*Pounds*	*Pounds*	*Pounds*	*Pounds*	*Pounds*	*Pounds*	*Pounds*	*Pounds*
Grand Bank	532	882	848, 356		14, 813			1, 945	1, 424, 813
Green Bank		1, 200	65, 520		679				82, 630
St. Peters Bank		380	227, 725						229, 690
Bay of Islands							5, 277, 240		5, 277, 240
Off Newfoundland			4, 383						4, 383
Total	532	2, 462	1, 145, 984		15, 492		5, 277, 240	1, 945	7, 018, 756
Off Canada:									
Seal Island Grounds				900					1, 650
Labrador Coast			49, 595						63, 828
Gulf of St. Lawrence	142	10, 932	21, 108						229, 381
Scatari Bank		2, 470	8, 791						19, 496
Quereau Bank	570	1, 058	37, 797		157				104, 398
The Gully			74, 166						79, 486
Sable Island Bank (Western Bank)	5, 950	12, 625	51, 992	90	258			1, 000	2, 373, 519
Cape Shore	94, 640	75, 795	4, 540		57, 865	881, 300		17, 590	2, 287, 395
La Have Bank	35, 261	130, 137	130, 589	48, 825	2, 053			46, 645	4, 290, 515
Total	136, 563	233, 017	378, 578	49, 815	60, 333	881, 300		65, 235	9, 449, 668
West of 66° W. longitude									
Off United States:									
Browns Bank	253, 421	782, 415	265, 524	8, 959	316, 547			109, 085	15, 503, 348
Georges Bank	1, 984, 293	291, 096	671, 881	4, 726, 486	4, 137, 947	985, 636	6, 000	537, 105	138, 010, 702
Clark Bank	3, 670	175	294	4, 375				320	205, 609
South Channel	2, 024, 860	1, 178, 848	171, 049	2, 516, 358	7, 931	10, 099, 651	35, 750	426, 726	97, 022, 659
Off Highland Light						49, 000			49, 000
Off Chatham	11, 450	4, 385	4, 998	83, 190	500	3, 733, 353	13, 000	120, 999	5, 199, 489
Nantucket Shoals	66, 655	765	23, 911	999, 725	4, 119	221, 035		23, 575	7, 357, 309
Cashes Bank	24, 995	394, 648	17, 798	255		37, 401	219, 500	90, 530	2, 296, 808
Fippenies Bank	2, 235	50, 465	501					4, 645	289, 271
Platts Bank	18, 102	59, 613	876	1, 315			23, 700	36, 212	710, 504
Jeffreys Ledge	390, 478	237, 602	2, 208	10, 282		1, 372, 105	21, 000	246, 125	5, 274, 506
Ipswitch Bay						53, 110			53, 110
Middle Bank (Stellwagen Bank)	41, 085	126, 635	1, 652	19, 275		7, 310		5, 530	1, 842, 324
South						971, 175		4, 000	975, 175
Shore, general	5, 609, 151	131, 397	11, 054	2, 367, 730	50, 093	19, 410, 114	718, 900	1, 098, 709	38, 719, 484
Total	10, 430, 395	3, 258, 044	1, 171, 746	10, 737, 950	4, 517, 137	36, 939, 890	1, 037, 850	2, 703, 561	313, 509, 298
Grand total	10, 567, 490	3, 493, 523	2, 696, 308	10, 787, 765	4, 592, 962	37, 821, 190	6, 315, 090	2, 770, 741	329, 977, 722

NOTE.—The weight of salt fish landed has been converted to the equivalent of fresh fish as landed.

ays' absence from port of fishing vessels landing fish at Boston and Gloucester, Mass., and Portland, Me., 1929

Fishing grounds	January	February	March	April	May	June	July
ff Newfoundland:							
Grand Bank		19	21	64	43	144	233
Green Bank				24			
St. Peters Bank		43	76		31		
Bay of Islands	144	33					
Off Newfoundland						45	
Total	144	95	97	88	74	189	233
ff Canada:							
Seal Island Ground							
Labrador Coast						84	
Gulf of St. Lawrence						126	30
Scatari Bank						33	
Quereau Bank						20	
The Gully			20	26			
Sable Island Bank (Western Bank)				20	73	103	140
Cape Shore	24				50	126	20
La Have Bank		17		21	53	67	27
Total	24	17	20	67	176	559	217
ff United States:							
Brown Bank	287	273	331	354	227	76	260
Georges Bank	1, 769	1, 656	1, 901	1, 919	1, 934	2, 245	3, 192
Clark Bank			6				
South Channel	888	778	597	458	372	855	1, 863
Off Highland Light							4
Off Chatham	42	118	78	54	27	12	96
Nantucket Shoals	57	110	64	75	124	85	76
Cashes Bank	30	18		26	50	35	7
Fippenies Bank	5	6		3	18		
Platts Bank	12	3				6	
Jeffreys Ledge	80	169	143	37	8	32	20
Ipswich Bay						13	
Middle Bank (Stellwagen Bank)	108	26	5				
South				4	186	27	
Shore, general	299	589	805	730	742	994	498
Total	3, 577	3, 746	3, 930	3, 660	3, 688	4, 380	6, 016
Grand total	3, 745	3, 858	4, 047	3, 815	3, 938	5, 128	6, 466

Fishing grounds	August	September	October	November	December	Total
ff Newfoundland:						
Grand Bank	120	22				666
Green Bank		27	47			98
St. Peters Bank						150
Bay of Islands					203	380
Off Newfoundland						45
Total	120	49	47		203	1, 339
ff Canada:						
Seal Island Ground					2	2
Labrador Coast						84
Gulf of St. Lawrence						156
Scatari Bank						33
Quereau Bank			31			51
The Gully						46
Sable Island Bank (Western Bank)	19				10	365
Cape Shore	33	167	58	33	39	550
La Have Bank	46	62	7	67	380	747
Total	98	229	96	100	431	2, 034
ff United States:						
Brown Bank	120	170	45	94	213	2, 450
Georges Bank	2, 699	1, 811	1, 418	869	1, 340	22, 753
Clark Bank			14	23		43
South Channel	1, 445	1, 169	1, 723	1, 949	1, 086	13, 183
Off Highland Light						4
Off Chatham	630	10	7		42	1, 116
Nantucket Shoals	86	203	195	324	291	1, 690
Cashes Bank	7	3	29	72	119	396
Fippenies Bank			2	10	4	48
Platts Bank		5	59	36	6	127
Jeffreys Ledge	137	185	95	83	76	1, 065
Ipswich Bay						13
Middle Bank (Stellwagen Bank)	3	17	80	110	84	433
South						217
Shore, general	412	1, 170	840	1, 309	581	8, 969
Total	5, 539	4, 743	4, 507	4, 879	3, 842	52, 507
Grand total	5, 757	5, 021	4, 650	4, 979	4, 476	55, 880

MACKEREL FISHERY OF THE ATLANTIC COAST

The mackerel fishery of the Atlantic Coast of the United States had been declining from 1926 to 1928, but in 1929 there was a sharp recovery. The total catch was over 46,000,000 pounds as compared with less than 31,000,000 in 1928. The gain was due to the incoming of a new year-class, which furnished nearly 21,000,000 pounds of small mackerel. In general, fewer vessels participated regularly in the fishery during 1929 than during the previous year. The more remarkable differences as compared with last year were: A poor seining season and a more successful gill-net season in the south, a tremendous run of small mackerel off New England in August and September and the virtual failure of fall netting out of Gloucester.

Statistical summaries appear in the accompanying tables. As heretofore, only the purse seine and drift gill-net fisheries have been included. They have been designated as "seiners" and "netters," respectively. Because of their importance in certain seasons boats under 5 tons and operating purse seines or gill nets have been included in so far as data were available. The catch of shore gear, such as pound nets and traps were omitted. Practically all of the statistics were collected by the bureau's agents at Cape May, N. J., New York City, Boston, Gloucester, and Woods Hole, Mass., and Portland, Me. A few data on landings, particularly at ports not having a bureau representative, were secured from unofficial sources and consist of estimated, rather than "weighed-out" fares. The error involved is probably well under 5 per cent in the vessel fishery. The figures on the boat fishery are probably less complete. The small fish have been enumerated separately from the medium and large. The term "small" refers to mackerel one-half or three-fourths pound in weight. The catch of bullseye mackerel, *Scomber colias*, was not included. It amounted to 54,170 pounds in 1929, as compared with 935,675 the previous year.

Southern fishery.—This includes the catch of mackerel in waters off New York, New Jersey, Delaware, Maryland, and Virginia. The area is bounded on the east by longitude 72° W., which passes through the eastern end of Long Island about 9 miles west of Montauk Point.

Most of the vessels participating in this fishery sailed south from Gloucester during the last week in March and the first week in April, and the first catch was made by seiners on April 7 and landed at Cape May, N. J., on April 8. Seining operations continued in this area until May 28.

Unfavorable weather persisted during such a large portion of the season that only 26 vessels remained in the fishery during the entire period; 28 others participated part of the time and altogether the seining fleet took 3,233,521 pounds, as compared with 6,192,739 in the previous year.

Netters operated in the southern waters from April 21 to May 31. They were relatively more successful than were the seiners. In general, fair weather prevailed during the full moon periods when gill netting is mostly pursued. This, together with the participation of more vessels, produced a catch of 2,952,938 pounds, as compared with 1,215,937 pounds in the previous year.

Block Island fishery.—This includes the operations off southern New England between longitude 72° W., near Montauk Point on the eastern end of Long Island, and a line drawn 145° from true north from Sankaty Head, Nantucket.

The seiners shifted from the south to this region about May 26. Most of them pulled out by June 20, though a few continued until a week longer. During this time 32 vessels fished regularly in this area and, together with 30 other vessels, caught 3,004,270, as compared with 8,385,406 pounds caught by seiners during the previous year.

During the summer there were occasional trips of mackerel caught in this area by seiners. Altogether, nine such trips, aggregating 39,800 pounds, were landed.

The netters operated in this area from about May 26 to June 17, catching, 246,860 pounds of mackerel, as compared with 469,119 the previous year.

Gulf of Maine.—This includes all of the waters from Nantucket Shoals to Nova Scotia. Most of the mackerel fishing was done in the offing of Cape Cod, in Massachusetts Bay, and around Seguin Island, Me.

Seiners began fishing in this region during the early part of June; most of them landed their first trips between June 10 and 30. During June, July, and August most of the fishing was done in the offing of Cape Cod, where large mackerel predominated, particularly on the northwest edge of Georges Bank and the north end of South Channel. In July small mackerel of about one-half pound each began to appear in catches from along the outer shores of Cape Cod, and by the end of August these dominated in the catch. In the early part of September the fishery shifted to Massachusetts Bay and along the coast of Maine in the vicinity of Seguin Island. Except for a few large mackerel which continued to come from northern Georges, practically the entire catch was of small mackerel. During October the catches consisted entirely of small mackerel, most of them from Cape Cod Bay. The season ended earlier than usual; most of the seiners had landed their last trips by October 28.

All told, there were 103 seiners operating in the Gulf of Maine sector in 1929; 51 of these fished regularly throughout the whole season. The catch consisted of 14,325,209 pounds of large mackerel and 20,746,813 of small mackerel, a total of 35,071,022 pounds as compared with 11,924,679 in 1928.

The netters had a short spring season in the Gulf of Maine, between May 25 and June 20, landing 165,312 pounds.

The fall netting season was disappointing. Although 91 vessels and boats participated, 38 of them regularly, and fished from October 20 to December 11, only 566,712 pounds were landed, as compared with 1,945,929 the previous year.

Cape Shore fishery.—Eleven seiners made 15 trips to the offing of Nova Scotia during the early part of June. The total catch from this region was 884,900 pounds, as compared with 313,210 the previous year.

Mackerel fishery of the Atlantic coast, 1929

BY PORTS, IN 5-DAY PERIODS[1]

Date	Cape May, Wildwood, Atlantic City	New York	Newport, New Bedford, Woods Hole, Provincetown	Boston	Gloucester	Portland	Total
	Pounds	*Pounds*	*Pounds*	*Pounds*	*Pounds*	*Pounds*	*Pounds*
Apr. 6-10	269, 078	-----	-----	-----	-----	-----	269, 078
Apr. 11-15	114, 793	40, 000	-----	-----	-----	-----	154, 793
Apr. 16-20	1, 625	-----	-----	-----	-----	-----	1, 625
Apr. 21-25	68, 083	-----	-----	-----	-----	-----	68, 083
Apr. 26-30	496, 718	250, 000	-----	40, 000	-----	-----	786, 718
May 1-5	245, 640	575, 750	-----	-----	-----	-----	821, 390
May 6-10	172, 395	706, 364	21, 000	-----	-----	-----	899, 759
May 11-15	50, 500	621, 695	160, 100	333, 375	40, 690	-----	1, 206, 360
May 16-20	-----	713, 868	-----	22, 645	33, 110	-----	769, 623
May 21-25	-----	355, 350	152, 510	31, 740	-----	-----	539, 600
May 26-31	-----	151, 400	416, 490	261, 250	62, 190	8, 800	900, 130
June 1-5	-----	21, 000	145, 150	530, 385	17, 442	-----	713, 977
June 6-10	-----	50, 500	26, 350	1, 146, 515	20, 560	4, 610	1, 248, 535
June 11-15	-----	10, 000	148, 210	849, 210	189, 130	1, 315	1, 197, 865
June 16-20	-----	-----	46, 050	636, 850	316, 540	766	1, 000, 206
June 21-25	-----	-----	65, 560	657, 195	122, 710	-----	845, 465
June 26-30	-----	-----	73, 900	1, 184, 070	535, 560	-----	1, 793, 530
July 1-5	-----	-----	[2] 9, 200	1, 294, 400	1, 564, 880	127, 678	2, 996, 158
July 6-10	-----	-----	-----	625, 195	85, 170	36, 270	746, 635
July 11-15	-----	-----	-----	1, 642, 985	658, 560	112, 280	2, 413, 825
July 16-20	-----	-----	-----	450, 985	123, 100	1, 645	575, 730
July 21-25	-----	-----	[2] 4, 500	685, 495	459, 855	57, 280	1, 207, 130
July 26-31	-----	-----	[2] 8, 000	860, 045	221, 720	12, 389	1, 102, 154
Aug. 1-5	-----	-----	[2] 22, 000	431, 840	290, 610	58, 920	803, 370
Aug. 6-10	-----	-----	[2] 14, 000	1, 148, 004	339, 250	31, 744	1, 532, 998
Aug. 11-15	-----	-----	-----	615, 490	436, 550	9, 280	1, 061, 320
Aug. 16-20	-----	-----	[2] 16, 000	620, 598	975, 444	28, 008	1, 640, 050
Aug. 21-25	-----	-----	[2] 108, 000	344, 215	844, 800	20, 969	1, 317, 984
Aug. 26-31	-----	-----	[2] 8, 000	391, 315	416, 840	82, 508	898, 663
Sept. 1-5	-----	-----	-----	327, 190	953, 760	303, 210	1, 584, 160
Sept. 6-10	-----	-----	[2] 10, 000	190, 960	1, 382, 740	240, 295	1, 823, 995
Sept. 11-15	-----	-----	[2] 57, 200	304, 910	377, 675	97, 065	836, 850
Sept. 16-20	-----	-----	[3] 28, 400	801, 679	1, 446, 250	[4] 347, 628	2, 623, 957
Sept. 21-25	-----	-----	[2] 20, 000	1, 022, 990	1, 548, 300	266, 819	2, 858, 109
Sept. 26-30	-----	-----	[2] 379, 000	1, 546, 655	1, 099, 810	126, 825	3, 152, 290
Oct. 1-5	-----	-----	-----	26, 000	13, 800	36, 960	76, 760
Oct. 6-10	-----	-----	[2] 72, 000	766, 020	158, 794	240	997, 054
Oct. 11-15	-----	-----	[2] 8, 000	698, 805	110, 576	47, 500	864, 881
Oct. 16-20	-----	-----	-----	36, 935	12, 990	2, 850	52, 775
Oct. 21-25	-----	-----	-----	674, 120	164, 545	7, 745	846, 410
Oct. 26-31	-----	-----	-----	439, 478	34, 679	-----	474, 157
Nov. 1-5	-----	-----	-----	-----	31, 452	-----	31, 452
Nov. 6-10	-----	-----	-----	4, 117	94, 371	-----	98, 488
Nov. 11-15	-----	-----	-----	19, 500	242, 785	-----	262, 285
Nov. 16-20	-----	-----	-----	17, 455	30, 128	-----	47, 583
Nov. 21-25	-----	-----	-----	-----	1, 742	-----	1, 742
Nov. 26-30	-----	-----	-----	-----	15, 077	-----	15, 077
Dec. 1-5	-----	-----	-----	-----	5, 490	-----	5, 490
Dec. 6-10	-----	-----	-----	-----	50	-----	50
Dec. 11-15	-----	-----	-----	-----	26	-----	26
Total	1, 418, 832	3, 495, 927	2, 019, 620	21, 680, 616	15, 479, 751	2, 071, 599	46, 166, 345

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[1] The landings at the ports of Boston, Gloucester, and Portland vary somewhat from those published under "Vessel Fisheries at Principal New England Ports," due to the inclusion of landings of some small boats in the above data, and also to different methods in the collection of the statistics.

[2] Landed at Provincetown.

[3] Landed at Provincetown and Noank, Conn.

[4] Includes 20,000 pounds landed at Boothbay, Me.

Mackerel fishery of the Atlantic coast, 1929—Continued

OPERATING UNITS: BY FLEET CLASSIFICATION AND GROUNDS

Designation	Vessels and boats	Tonnage	Crew	Trips	Catch		
					Medium and large	Small	Total
SOUTHERN	*Number*	*Net tons*	*Number*	*Number*	*Pounds*	*Pounds*	*Pounds*
einers:							
Regular vessels	26	1, 235	331	148	2, 273, 824	11, 805	2, 285, 629
Miscellaneous vessels	28	1, 208	344	76	921, 412	1, 480	922, 892
Miscellaneous boats	1	--------	--------	1	25, 000	--------	25, 000
etters:							
Regular vessels	37	643	235	293	2, 452, 356	9	2, 452, 365
Miscellaneous vessels	17	211	91	53	249, 208	--------	249, 208
Miscellaneous boats	16	--------	--------	39	251, 375	--------	251, 375
Total	[1] 123	--------	--------	610	6, 173, 175	13, 294	6, 186, 469
BLOCK ISLAND							
einers:							
Spring—							
Regular vessels	32	1, 116	381	125	2, 301, 985	42, 925	2, 344, 910
Miscellaneous vessels	30	1, 147	341	46	644, 650	14, 710	659, 360
Sumner and fall—							
Miscellaneous vessels	8	231	76	8	17, 750	17, 400	35, 150
Miscellaneous boats	1	--------	--------	1	4, 650	--------	4, 650
etters:							
Spring—							
Miscellaneous vessels	22	283	115	36	188, 320	--------	188, 320
Miscellaneous boats	10	--------	--------	14	58, 540	--------	58, 540
Total	[1] 101	--------	--------	230	3, 215, 895	75, 035	3, 290, 930
GULF OF MAINE							
einers:							
Regular vessels	51	1, 753	591	1, 029	11, 890, 854	16, 440, 462	28, 331, 316
Miscellaneous vessels	50	1, 323	446	360	2, 419, 855	4, 281, 551	6, 701, 406
Miscellaneous boats	2	--------	--------	4	14, 500	24, 800	39, 300
etters:							
Spring—							
Miscellaneous vessels	18	259	106	44	121, 702	--------	121, 702
Miscellaneous boats	11	--------	--------	31	43, 610	--------	43, 610
Fall—							
Regular vessels	38	872	269	347	366, 185	--------	366, 185
Miscellaneous vessels	37	858	248	159	159, 593	--------	159, 593
Miscellaneous boats	16	--------	--------	96	40, 934	--------	40, 934
Total	[1] 156	--------	--------	2, 070	15, 057, 233	20, 746, 813	35, 804, 046
CAPE SHORE							
einers	11	678	153	15	884, 900	--------	884, 900
Total seiners	[2] 105	--------	--------	1, 813	21, 399, 380	20, 835, 133	42, 234, 513
Total netters	[3] 148	--------	--------	1, 112	3, 931, 823	9	3, 931, 832
Grand total	[4] 304	--------	--------	2, 925	25, 331, 203	20, 835, 142	46, 166, 345

[1] Exclusive of duplication.
[2] Exclusive of duplication, inclusive of 4 boats of less than 5 net tons.
[3] Exclusive of duplication, inclusive of 48 boats of less than 5 net tons.
[4] Exclusive of duplication, inclusive of 51 boats of less than 5 net tons.

Landings of mackerel 1905–1929

Year	Pounds [1]	Year	Pounds [1]
1905	15,398,070	1918	13,915,200
1906	8,106,960	1919	9,990,690
1907	16,902,270	1920	13,292,040
1908	14,376,990	1921	6,923,790
1909	11,702,190	1922	8,797,680
1910	3,909,150	1923	23,390,580
1911	8,322,060	1924	18,237,120
1912	7,011,240	1925	33,953,490
1913	9,327,330	1926	47,126,100
1914	14,477,970	1927	41,998,600
1915	16,051,170	1928	30,983,880
1916	20,642,580	1929	46,166,345
1917	25,473,540		

[1] Represents the weight of mackerel landed in the round plus the weight of mackerel landed salted which has been converted to the equivalent of fresh mackerel in the round.

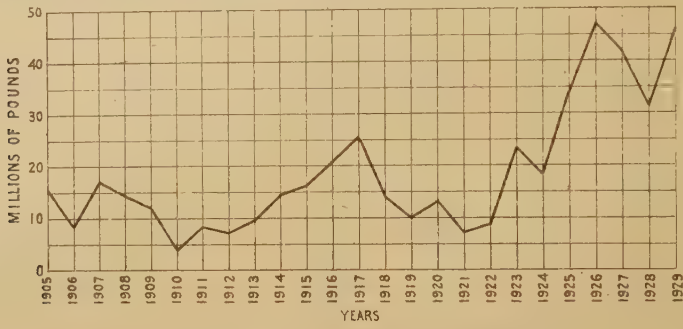

FIGURE 18.—Catch of mackerel in the North Atlantic fishery, 1905 to 1929

FISHERIES OF THE MIDDLE ATLANTIC STATES

The latest statistical canvass of the fisheries and fishery industries of the Middle Atlantic States (New York, New Jersey, Pennsylvania, and Delaware), was for the calendar year 1926. The complete statistics for this canvass are published in the report of the division of fishery industries for 1927 and in condensed form in Statistical Bulletin No. 786.

During 1926 the fisheries and fishery industries of the Middle Atlantic States gave employment to 14,335 persons, of whom 9,953 were fishermen, 107 were engaged in the transporting trade, 3,412 were in the wholesale trade, and 843 in the canning and by-products industries. The catch of the fisheries of these States amounted to 168,012,495 pounds, valued at $12,456,256. The products of the canning, salting, smoking, and by-products industries had a value of $4,018,488.

CATCH: BY STATES

Products	New York		New Jersey		Pennsylvania		Delaware		Total	
	Pounds	*Value*	*Pounds*	*Value*	*Pounds*	*Value*	*Pounds*	*Value*	*Pounds*	*Value*
FISH										
Albacore	16,800	$668	18,268	$665					35,068	$1,333
Alewives	1,564,415	25,594	379,550	12,584	5,300	$165	546,050	$8,704	2,495,315	47,047
Bluefish	261,740	60,381	628,241	148,147	21,400	4,850	10,300	2,952	921,681	216,330
Bonito	90,205	4,910	507,660	40,756	400	40			598,265	45,706
Butterfish	998,135	84,313	3,078,247	235,293	6,000	300	6,320	344	4,088,702	320,250
Carp	207,100	27,636	279,039	50,024	3,875	800	109,548	15,168	599,562	93,628
Catfish and bullheads	23,567	3,981	136,226	10,935	5,600	505	55,617	3,525	221,010	18,946
Cod	2,642,961	123,555	2,216,691	109,065	14,287	817			4,873,939	233,437
Cod roe	40	4							40	4
Croaker	4,000	120	2,455,867	104,827	1,000	40	897,100	24,256	3,357,967	129,243
Drum, black	200	2	31,100	909			4,240	73	35,540	984
Drum, red	100	2	14,300	412			3,310	60	17,710	474
Eels	516,394	70,543	251,671	25,392	2,500	375	52,040	8,043	822,605	104,353
Flounders	7,532,138	396,707	2,921,714	209,314	400	26	66,040	3,439	10,520,292	609,486
Grayfish	2,115	69	4,640	278					6,755	347
Haddock	17,019,780	597,276	3,450	156					17,023,230	597,432
Hake	175,845	6,966	451,320	9,497					627,165	16,463
Halibut	10,381	3,489							10,381	3,489
Herring	2,407	40	235,665	7,030					238,072	7,070
Hickory shad	13,147	586	5,439	219					18,586	805
King whiting or "kingfish"	63,861	10,599	33,125	4,664			4,250	406	101,236	15,669
Mackerel	740,299	52,579	2,165,752	141,147	39,847	2,284			2,945,898	196,010
Menhaden	11,224,870	44,759	5,378,807	20,945	36,000	240	23,251,560	96,380	39,891,237	162,324
Minnows	8,033	4,598							8,033	4,598
Mullet	750	21	6,000	500			22,250	972	29,000	1,493
Mummichog	9,075	620							9,075	620
Pike or pickerel	327	98					500	75	827	173
Pilotfish	225	10	3,900	125					4,125	135
Pollock	102,463	5,057	23,310	1,244					125,773	6,301
Pompano	116	12	625	243					741	255
Scup or porgy	927,493	88,553	2,452,079	126,397	122,400	5,520	2,000	160	3,503,972	220,630
Sea bass	231,125	29,385	2,095,857	171,606	42,800	3,574			2,369,782	204,565
Sea robin	30,084	572	23,100	684					53,184	1,256
Shad	231,392	49,212	552,480	139,564	20,766	5,322	147,095	39,621	951,733	233,719
Sharks	15,763	408	48,710	1,365					64,473	1,773
Silversides or spearing	61,200	2,715	2,000	2,000					63,200	4,715
Skates	40,240	1,207	47,446	1,331					87,686	2,538
Smelt	180	44							180	44
Spanish mackerel	37	9	13,992	1,804					14,029	1,813
Spot	436,484	26,084	1,217,704	75,972			103,900	6,439	1,758,088	108,495

Fisheries of the Middle Atlantic States, 1926—Continued

CATCH: BY STATES—Continued

Products	New York		New Jersey		Pennsylvania		Delaware		Total	
	Pounds	*Value*	*Pounds*	*Value*	*Pounds*	*Value*	*Pounds*	*Value*	*Pounds*	*Value*
FISH—continued										
Squeteagues or weakfish	1,073,211	$98,544	7,172,685	$448,198	383,000	$15,440	771,880	$38,812	9,400,776	$600,994
Striped bass	86,550	20,984	64,159	18,470			46,347	8,916	197,056	48,370
Sturgeon	8,946	1,682	7,400	2,248			5,580	2,561	21,926	6,491
Sturgeon roe	80	22	490	740			891	922	1,461	1,684
Suckers	72,493	9,505	92,675	14,975	26,000	2,858	2,600	118	193,768	27,456
Swellfish	12,900	390							12,900	390
Swordfish	60,809	11,391							60,809	11,391
Tautog	48,312	4,393	21,729	1,700	200	16	12,000	600	82,241	6,709
Thimble-eyed mackerel	16,890	1,166	105,038	3,498					121,928	4,664
Tilefish	1,801,750	111,500							1,801,750	111,500
Tomcod or frostfish	53,512	2,387	1,100	72					54,612	2,459
Tomcod roe	3,000	250							3,000	250
Tuna or horse mackerel	11,942	1,959	132,420	9,544					144,362	11,503
White bait	18,100	1,200							18,100	1,020
White perch	20,061	2,570	113,035	15,885			64,944	5,313	198,040	23,768
Whiting	583,054	13,600	6,935,124	142,243	2,500	15			7,520,678	155,858
Yellow perch	14,328	1,926	27,000	5,075			23,106	2,111	64,434	9,112
Miscellaneous fish	560,751	4,798	63,206	5,888			156	10	629,113	10,696
Total	49,652,176	2,011,651	42,425,036	2,323,630	734,275	43,187	26,209,624	269,980	119,021,111	4,648,448
SHELLFISH, ETC.										
Crabs:										
Hard	2,000	100	61,566	5,825			166,842	7,702	230,408	13,627
Soft	979	535	6,400	4,100			155,820	43,950	163,199	48,585
King			2,248,000	10,856			640,000	1,600	2,888,000	12,456
Lobsters	455,218	130,716	643,286	193,649			20,640	6,202	1,119,144	330,567
Shrimp	6,400	2,400	36,276	1,758					[1] 42,676	4,158
Squid	539,563	35,310	1,036,264	64,627					1,575,827	99,937
Clams, hard:										
Public	518,152	248,912	613,864	297,470			4,736	2,860	1,136,752	549,242
Private	68,888	42,484	23,384	12,000			48,256	21,864	140,528	76,348
Clams, soft	264,220	56,046	144,600	25,350					408,820	81,396
Skimmers or surf clams	59,112	15,436							59,112	15,436
Mussels	210,000	10,200	47,000	560					257,000	10,760
Oysters, market:										
Public	5,950	1,025	67,424	12,563			826,560	41,010	899,934	54,598
Private	7,119,315	2,110,697	11,137,721	2,033,991			2,585,205	435,020	20,842,241	4,579,708
Oysters, seed:										
Public	214,550	39,125	14,650,447	1,243,918			2,586,920	197,740	17,451,917	1,480,783
Private	224,000	49,600	93,100	6,740					317,100	56,340

Scallops:										
Bay	299,892	92,253							299,892	92,253
Sea	1,067,964	267,938	47,436	15,688					1,115,400	283,626
Frogs							1,800	450	1,800	450
Terrapin							1,080	750	1,080	750
Turtles	490	15	17,319	1,539	500	100	10,245	834	28,554	2,488
Miscellaneous products (for bait)	12,000	14,300							12,000	14,300
Total	11,068,693	3,117,092	30,874,087	3,930,634	500	100	7,048,104	759,982	48,991,384	7,807,808
Grand total	60,720,869	5,128,743	73,299,123	6,254,264	734,775	43,287	33,257,728	1,029,962	168,012,495	12,456,256

[1] Taken mostly off the coast of Florida.

NOTE.—The above statistics do not include any fisheries of the Great Lakes or other inland waters.

CATCH: BY YEARS

[Expressed in thousands of pounds and thousands of dollars; that is, 000 omitted]

Year	New York		New Jersey		Pennsylvania		Delaware		Total	
	Quantity	*Value*	*Quantity*	*Value*	*Quantity*	*Value*	*Quantity*	*Value*	*Quantity*	*Value*
1880	329,453	4,226	65,151	3,176	1,680	277	11,918	998	408,202	8,677
1887	130,288	3,387	65,246	4,168	7,895	333	10,396	211	213,825	8,099
1888	192,513	3,466	61,115	4,199	12,901	344	10,226	209	276,755	8,218
1889	175,936	4,182	82,362	3,170	7,166	325	9,859	257	275,323	7,934
1890	192,471	4,602	88,730	3,447	7,849	328	10,054	267	299,104	8,644
1891	170,885	4,817	79,116	3,520	7,584	322	7,698	255	265,283	8,914
1892	(2)	(2)	73,267	3,646	6,324	284	7,195	251		
1897	109,556	3,392	103,782	3,614	5,604	269	8,648	252	227,590	7,527
1898	210,497	3,545	90,297	3,564	(2)	(2)	(2)	(2)		
1901	228,092	3,894	117,931	4,756	6,030	251	5,835	203	357,888	9,104
1904	277,650	6,231	90,108	3,385	2,046	167	5,608	260	375,412	10,043
1908	71,474	4,390	74,827	3,069	4,380	280	70,769	541	221,450	8,280
1921	210,377	4,987	96,937	5,983	595	45	25,023	652	332,932	11,667
1926	60,721	5,129	73,299	6,254	735	43	33,258	1,030	168,013	12,456

[2] Statistics not available.

VESSEL FISHERIES OF NEW YORK CITY AND GROTON, CONN.[4]

During 1929 fishing vessels of 5 net tons and over landed 75,325,000 pounds of fishery products at New York City and Groton, Conn. This is 6 per cent more than in 1928 and about four times the landings during 1922, the first year for which there is a complete record. Most of the ground fish were taken with otter trawls.

Species landed.—The increase in the landings of fish at these ports during the past few years has been due mainly to the greater quantity of haddock landed. In 1929 the landings of this species amounted to 55,937,000 pounds, or 74 per cent of the total. This is about thirteen times the landings of this species in 1922. Most of these haddock are utilized by fish-packing plants in preparing package fish products. Next in volume were flounders with landings of 7,374,000 pounds, or 10 per cent of the total. This is slightly less than a year ago. Cod ranked third in 1929 with landings of 4,458,000 pounds, or 6 per cent of the total. Mackerel were fourth in importance, with landings of 3,286,000 pounds, or 4 per cent of the total. This is less than was landed in 1928. Tilefish, a species common almost exclusively to these ports, were fifth, with landings of 2,458,000 pounds, or 3 per cent of the total. This was slightly more than in the previous year. The landings of all other species amounted to about 2 per cent of the total.

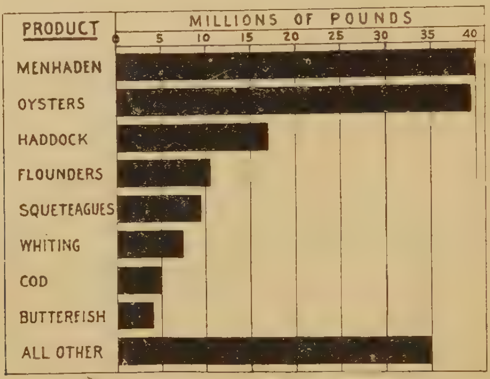

FIGURE 19.—Yield of principal fishery products in the Middle Atlantic States, 1926

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[4] Statistics of the landings of fish by vessels of 5 net tons and over at New York City have been collected during the past few years by J. H. Matthews, executive secretary, Middle Atlantic Fisheries Association. These have been forwarded to the bureau, where they have been compiled.

Since November, 1927, statistics of the landings of fish by vessels at Groton, Conn., have been included with those for fish landed at New York City, because at that time one of the firms packing fish at New York City moved its plant to Groton, thus requiring the trawlers to unload at Groton. By including the landings at Groton, the figures since November, 1927, are comparable with those for previous years. The statistics at both ports are combined to avoid disclosing individual enterprise.

Landings of fish at New York City and Groton, Conn., 1922 to 1929 [1]

[Expressed in thousands of pounds; that is, 000 omitted]

Year	Bluefish	Cod	Flounders	Haddock	Hake	Halibut	Mackerel	Pollock
2	2,032	936	5,550	4,332			1,371	
3	1,735	1,394	9,614	10,792			1,251	
4	111	1,686	13,281	[3] 14,449			3,047	
5	51	1,647	17,912	14,771		73	2,670	
6	74	1,282	12,793	17,908		54	5,038	
7	71	1,426	10,076	30,403		40	4,939	
8	143	2,970	9,979	49,990	215	59	3,850	183
9	476	4,458	7,374	55,937	140	60	3,286	120

Year	Porgies or scup and sea bass	Sturgeon	Swordfish	Tilefish	Squeteague or weakfish	Miscellaneous [2]	Total
2	1,583	20	2	1,153	59	3,716	20,754
3	2,553			1,364	272	4,857	33,832
4	808			1,262	332	45	35,021
5	1,318			1,015	1,099	66	40,622
6	540			1,975	228	42	39,934
7	459			2,777	171	410	50,772
8	622		22	2,365	16	763	71,177
9	686			2,458	84	246	75,325

Includes landings of fish at Groton, Conn., beginning with November, 1927.

Where landings are not shown for certain species, it is probable that they are included under "mis-aneous."

Includes the landings of some mixed fish.

SHAD FISHERY OF THE HUDSON RIVER

Shad fishing in the Hudson River in 1929 was followed by 241 hermen who used 94 row boats, 30 motor boats, 104 drift gill nets at had a total area of 355,477 square yards, and 15 stake gill nets at had an area of 41,008 square yards. The catch amounted to ,480 shad, having a weight of 196,745 pounds, and a value to the hermen of $30,683. This is a decrease of 29 per cent in both number d value as compared with the production in 1928. There was a cline of nearly 2 cents per pound from the price received by the hermen in 1928.

More than 75 per cent of the catch was taken with drift gill nets, e remainder being taken with stake gill nets. The former were iversally used on the river above Haverstraw, while from that int south, stake gill nets were used exclusively.

With the exception of some fishing with stake gill nets from one wn in New Jersey, the fishing was prosecuted entirely in New York aters.

Most of the shad were disposed of locally by the fishermen, either rectly to the consumer on the shore or by peddling, or to local arkets and buyers. Very few were shipped to New York City, cept from a few near-by towns, as the prices prevailing in that y did not justify it.

Shad fishery of the Hudson River, 1929

Items	New York			New Jersey			Total		
	Number	*Pounds*	*Value*	*Number*	*Pounds*	*Value*	*Number*	*Pounds*	*Value*
Fishermen	224			17			241		
Rowboats	88			6			94		
Motor boats	27			3			30		
Gill nets, drift	104						104		
Square yards	355, 477						355, 477		
Gill nets, stake	10			5			15		
Square yards	31, 908			9, 100			41, 008		
Shad caught:									
With drift gill nets	43, 430	149, 328	$24, 547				43, 430	149, 328	$24, 54
With stake gill nets	2, 550	8, 567	1, 254	10, 500	38, 850	$4, 882	13, 050	47, 417	6, 13
Total	45, 980	157, 895	25, 801	10, 500	38, 850	4, 882	56, 480	196, 745	30, 68

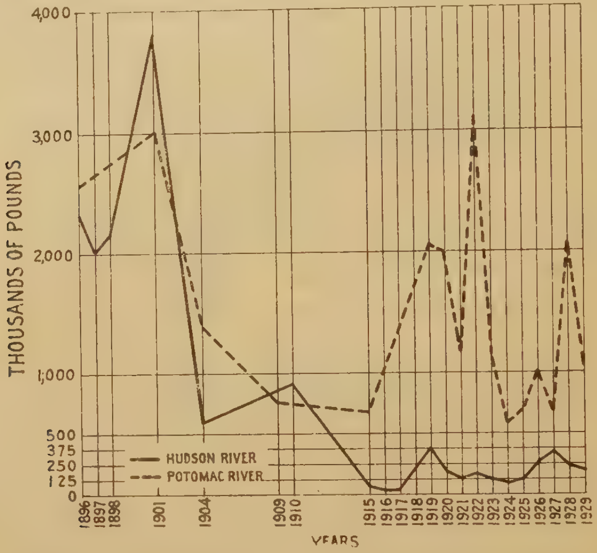

FIGURE 20.—Catch of shad in the Hudson and Potomac Rivers for various years, 1896 to 1929

Catch of shad in the Hudson River for various years, 1896 to 1929

Year	New York			New Jersey			Total		
	Number	*Pounds*	*Value*	*Number*	*Pounds*	*Value*	*Number*	*Pounds*	*Valu*
1896	420, 098	1, 681, 371	$58, 921	168, 800	675, 595	$24, 316	588, 898	2, 356, 966	$83, 2
1897	404, 877	1, 506, 142	49, 353	115, 200	529, 920	17, 934	520, 077	2, 036, 062	67, 2
1898	410, 395	1, 534, 877	50, 875	129, 855	606, 423	18, 510	540, 250	2, 141, 300	69, 3
1901	829, 612	3, 202, 302	100, 762	144, 315	577, 260	21, 647	973, 927	3, 779, 562	122, 4
1904	100, 624	402, 496	28, 896	57, 657	201, 800	17, 758	158, 281	604, 296	46, 6
1910 [1]	126, 534	506, 136	51, 715	101, 720	406, 880	49, 109	228, 254	913, 016	100, 8
1915	11, 606	48, 564	5, 969	4, 249	20, 104	2, 674	15, 855	68, 668	8, 6
1916	7, 787	32, 923	4, 540	1, 500	7, 250	925	9, 287	40, 173	5, 4
1917	10, 615	38, 344	5, 810	1, 400	5, 040	720	12, 015	43, 384	6, 5
1918	63, 404	220, 602	44, 784	3, 999	14, 000	3, 400	67, 403	234, 602	48, 1
1919	76, 501	301, 306	60, 690	13, 800	73, 668	23, 034	90, 301	374, 974	83, 7
1920	39, 692	157, 715	43, 882	9, 623	42, 129	12, 427	49, 315	199, 844	56, 3
1921	28, 948	104, 883	24, 329	6, 500	25, 920	6, 294	35, 448	130, 803	30, 6
1922	36, 111	128, 324	27, 451	12, 225	46, 862	12, 255	48, 336	175, 186	39, 7
1923	28, 636	97, 863	22, 644	6, 450	23, 865	6, 000	35, 086	121, 728	28,
1924	22, 814	72, 519	17, 619	5, 980	21, 850	5, 485	28, 794	94, 369	23, 1
1925	34, 568	110, 359	24, 030	4, 300	13, 975	2, 400	38, 868	124, 334	26,
1926	73, 312	219, 183	47, 175	11, 150	46, 237	6, 300	84, 462	265, 420	53,
1927	89, 984	299, 693	56, 950	20, 300	58, 362	6, 700	110, 284	358, 055	63,
1928	61, 079	194, 181	32, 689	17, 950	52, 050	10, 460	79, 029	246, 231	43,
1929	45, 980	157, 895	25, 801	10, 500	38, 850	4, 882	56, 480	196, 745	30,

[1] Includes catch in lower New York Bay, Raritan Bay and tributaries, but this was inconsiderable.

FISHERIES OF THE CHESAPEAKE BAY STATES

The latest statistical canvass of the fisheries and fishery industries the Chesapeake Bay States (Maryland and Virginia) was for the endar year 1925. Complete statistics are published in the report the division of fishery industries for 1926 and in condensed form in atistical Bulletin No. 745.

During 1925 the fisheries and fishery industries of Maryland and rginia gave employment to 39,091 persons, of whom 25,856 were gaged in fishing operations, 9,671 in the wholesale fishery trade, d 3,564 in the canning, salting, smoking, and by-products industries. e products of the fisheries of the two States amounted to 333,205,769 unds, valued at $13,948,060. The products of the canning and ner fishery industries had a value of $4,936,664.

Fisheries of the Chesapeake Bay States, 1925

Products	Maryland		Virginia		Total	
	Pounds	*Value*	*Pounds*	*Value*	*Pounds*	*Value*
vives, fresh	7,480,114	$78,502	17,886,647	$208,953	25,366,761	$287,455
vives, salted	200,400	4,582	23,600	770	224,000	5,352
vives, smoked	20,400	1,200	-----	-----	20,400	1,200
oerfish	-----	-----	350	18	350	18
lefish	-----	-----	4,050	225	4,050	225
k bass	35,609	6,760	57,418	7,734	93,027	14,494
fish	57,743	7,803	157,258	18,858	215,001	26,661
ito	16,300	925	288,110	15,891	304,410	16,816
fin	-----	-----	24,775	753	24,775	753
erfish	276,575	15,694	5,836,357	252,298	6,112,932	267,992
)	198,353	16,698	462,419	30,997	660,772	47,695
ish	474,719	26,005	534,330	32,057	1,009,049	58,062
ia or coalfish	-----	-----	3,260	265	3,260	265
--	-----	-----	17,000	406	17,000	406
ker	2,602,861	63,326	22,649,295	648,090	25,252,156	711,416
m, black	25,150	472	228,180	3,529	253,330	4,001
m, red, or redfish	4,160	107	125,390	2,243	129,550	2,350
, fresh	197,862	23,423	181,948	21,900	379,810	45,323
, salted	67,200	8,064	-----	-----	67,200	8,064
nders	118,078	7,704	581,817	37,902	699,895	45,606
ard shad	31,025	973	350,283	8,785	381,308	9,758
fish	400	20	2,600	129	3,000	149
dock	-----	-----	2,000	80	2,000	80
e	-----	-----	11,800	232	11,800	232
restfish	3,700	428	[1] 743,770	26,864	747,470	27,292
tory shad	20,561	1,132	235,127	11,034	255,688	12,166
chokers, salted	23,525	1,379	-----	-----	23,525	1,379
ish	-----	-----	1,348	128	1,348	128
whiting	3,600	424	122,838	8,919	126,438	9,343
kerel	9,460	980	11,840	1,234	21,300	2,214
haden	7,000	25	150,485,623	1,434,681	150,492,623	1,434,706
et	14,509	999	122,072	8,161	136,581	9,160
sh	1,000	34	139,451	7,430	140,451	7,464
	71,691	16,456	17,855	2,983	89,546	19,439
sh	-----	-----	1,400	130	1,400	130
pano	250	70	4,584	1,003	4,834	1,073
or porgy	45,000	3,100	402,274	27,928	447,274	31,028
ass	54,700	3,788	51,340	4,568	106,040	8,356
obin	-----	-----	50,000	71	50,000	71
	1,260,152	264,388	6,103,704	1,372,491	7,363,856	1,636,879
ks	-----	-----	17,154	1,021	17,154	1,021
pshead	-----	-----	122	17	122	17
es	-----	-----	23,600	148	23,600	148
ish mackerel	290	65	127,445	16,679	127,735	16,744
	208,377	11,485	1,768,206	88,090	1,976,583	99,575
teagues, or "sea trout"	1,480,209	88,733	12,444,450	579,563	13,924,659	668,296
ed bass	1,413,999	240,388	821,309	151,027	2,235,308	391,415
geon	19,225	4,321	65,977	16,167	85,202	20,488
geon caviar and roe	2,500	2,500	5,353	5,752	7,853	8,252
ers	3,775	155	4,113	250	7,888	405
sh	7,733	322	400	20	8,133	342
fish	-----	-----	35,000	49	35,000	49
og	400	24	2,870	225	3,270	249
ble-eyed mackerel	5,000	100	13,700	428	18,700	528
cod	800	25	17,400	420	18,200	445

f the amount 701,445 pounds, valued at $25,376 were formerly reported as Crevalle.

Fisheries of the Chesapeake Bay States, 1925—Continued

Products	Maryland		Virginia		Total	
	Pounds	*Value*	*Pounds*	*Value*	*Pounds*	*Value*
Tripletail			25	$4	$25	$
Tuna			320	17	320	1
White perch	629, 485	$59, 278	427, 275	35, 230	1, 056, 760	94, 50
Whiting	80, 000	800	33, 600	716	113, 600	1, 51
Yellow perch	231, 861	25, 379	79, 687	7, 338	311, 548	32, 71
Other fish	4, 720	70	300	30	5, 020	10
Crabs, hard	7, 321, 116	303, 507	18, 531, 994	523, 733	25, 853, 110	827, 24
Crabs, soft	2, 325, 245	264, 276	1, 422, 250	157, 981	3, 747, 495	422, 25
Crawfish	400	40			400	4
Shrimp	550	275			550	27
Squid	38, 000	2, 440	415, 825	23, 607	453, 825	26, 04
Clams, hard, public	109, 720	46, 450	1, 048, 544	400, 908	1, 158, 264	447, 35
Clams, hard, private			32, 008	21, 426	32, 008	21, 42
Oysters, market, public	28, 650, 678	3, 102, 960	9, 546, 327	1, 036, 500	38, 197, 005	4, 139, 46
Oysters, market, private	1, 106, 042	152, 547	11, 013, 366	1, 367, 761	12, 119, 408	1, 520, 30
Oysters, seed, public	13, 300	765	9, 855, 769	358, 555	9, 869, 069	359, 32
Oysters, seed, private			79, 450	2, 518	79, 450	2, 51
Scallops			360, 732	74, 272	360, 732	74, 27
Terrapin	1, 430	1, 000	8, 400	4, 400	9, 830	5, 40
Turtles	1, 033	53	2, 700	49	3, 733	10
Alewife scales			100, 000	10, 000	100, 000	10, 00
Total	56, 977, 985	4, 863, 419	276, 227, 784	9, 084, 641	333, 205, 769	13, 948, 06

Catch of crabs in the Chesapeake Bay States for various years from 1880 to 192

Years	Maryland					
	Crabs, hard		Crabs, soft		Total	
	Pounds	*Value*	*Pounds*	*Value*	*Pounds*	*Value*
1880	1, 166, 667	$46, 850	(1)	(1)		
1887	2, 757, 638	36, 969	1, 636, 530	$133, 788	4, 394, 168	$170, 75
1888	2, 674, 675	37, 438	2, 208, 829	161, 331	4, 883, 504	198, 76
1890	2, 388, 099	31, 723	4, 056, 110	228, 690	6, 444, 209	260, 41
1891	2, 776, 898	37, 460	4, 828, 872	266, 256	7, 605, 770	303, 71
1897	5, 333, 316	39, 949	4, 115, 879	177, 637	9, 449, 195	217, 58
1901	9, 824, 793	85, 884	4, 303, 582	202, 563	14, 128, 375	288, 44
1904	12, 665, 282	168, 996	5, 732, 865	189, 851	18, 398, 147	358, 84
1908	12, 786, 000	124, 000	7, 587, 000	195, 000	20, 373, 000	319, 00
1915	22, 491, 675	335, 375	7, 602, 207	329, 276	30, 093, 882	664, 65
1920	5, 165, 703	248, 160	3, 897, 271	494, 784	9, 062, 974	742, 94
1925	7, 321, 116	303, 507	2, 325, 245	264, 276	9, 646, 361	567, 78

Years	Virginia						Grand total	
	Crabs, hard		Crabs, soft		Total			
	Pounds	*Value*	*Pounds*	*Value*	*Pounds*	*Value*	*Pounds*	*Value*
1880	2, 139, 200	$32, 088	(1)	(1)				
1887	626, 820	15, 479	(1)	(1)				
1888	956, 843	24, 669	(1)	(1)				
1890	2, 584, 794	28, 210	440, 310	$26, 054	3, 025, 104	$54, 264	9, 469, 313	$314, 67
1891	2, 208, 071	32, 683	585, 956	29, 379	2, 794, 027	62, 062	10, 399, 797	365, 77
1897	5, 331, 398	28, 331	1, 068, 116	39, 914	6, 399, 514	68, 245	15, 848, 709	285, 83
1901	6, 113, 277	52, 863	1, 288, 424	65, 972	7, 401, 701	118, 835	21, 530, 076	407, 28
1904	10, 356, 052	179, 575	1, 910, 654	92, 909	12, 266, 706	272, 484	30, 664, 853	631, 33
1908	23, 001, 000	239, 000	2, 082, 000	87, 000	25, 083, 000	326, 000	45, 456, 000	645, 00
1915	18, 765, 148	242, 754	1, 484, 238	74, 402	20, 249, 386	317, 156	50, 343, 268	981, 80
1920	12, 465, 342	401, 295	1, 171, 737	164, 269	13, 637, 079	565, 564	22, 700, 053	1, 308, 50
1925	18, 531, 994	523, 733	1, 422, 250	157, 981	19, 954, 244	681, 714	29, 600, 605	1, 249, 49

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[1] Statistics not available.

Catch of oysters in the Chesapeake Bay States for various years, 1880 to 1925

Years	Maryland		
	Bushels	*Pounds*	*Value*
880	10,600,000	74,200,000	$4,730,476
887	8,148,217	57,037,519	2,683,435
888	8,531,658	59,721,606	2,877,790
890	10,450,087	73,150,609	4,854,746
891	9,945,058	69,615,406	5,295,866
897	7,254,934	50,784,538	2,885,202
901	5,685,561	39,798,927	3,031,518
904	4,429,650	31,007,550	2,417,674
908	6,232,000	43,624,000	2,228,000
912	5,510,421	38,572,947	2,127,759
920	4,547,471	31,832,297	2,291,120
925	4,252,860	29,770,020	3,256,272

Years	Virginia			Total		
	Bushels	*Pounds*	*Value*	*Bushels*	*Pounds*	*Value*
880	6,837,320	47,861,240	$2,218,376	17,437,320	122,061,240	$6,948,852
887	[1] 2,921,140	20,447,980	1,002,901	11,069,357	77,485,499	3,686,336
888	3,664,433	25,651,031	1,336,012	12,196,091	85,372,637	4,213,802
890	6,074,025	42,518,175	2,482,348	16,524,112	115,668,784	7,337,094
891	6,162,086	43,134,602	2,524,348	16,107,144	112,750,008	7,820,214
897	7,023,848	49,166,936	2,041,683	14,278,782	99,951,474	4,926,885
901	6,067,669	42,473,683	2,621,915	11,753,230	82,272,610	5,653,433
904	7,612,289	53,286,023	3,459,676	12,041,939	84,293,573	5,877,350
908	5,075,000	35,525,000	2,348,000	11,307,000	79,149,000	4,576,000
912	6,206,098	43,442,686	2,286,340	11,716,519	82,015,633	4,414,099
920	3,963,569	27,744,983	2,348,961	8,511,040	59,577,280	4,640,081
925	4,356,416	30,494,912	2,765,334	8,609,276	60,264,932	6,021,606

[1] Exclusive of the James and Potomac Rivers.

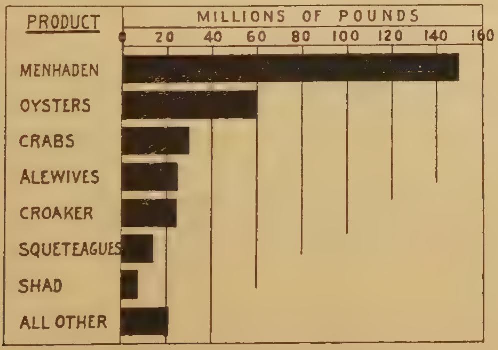

FIGURE 21.—Yield of principal fishery products in the Chesapeake Bay States, 1925

Fisheries of the Chesapeake Bay States for various years, 1880 to 1925

Years	Maryland		Virginia		Total	
	Pounds	*Value*	*Pounds*	*Value*	*Pounds*	*Value*
880	95,712,570	$5,221,715	158,874,609	$3,124,444	254,587,179	$8,346,159
887	107,981,976	3,514,182	97,635,402	1,606,811	205,617,378	5,120,993
888	114,788,113	3,813,199	101,318,814	1,836,155	216,106,927	5,649,354
890	143,905,576	6,019,165	185,282,705	3,636,351	329,188,281	9,655,516
891	141,177,827	6,460,759	183,993,834	3,647,845	325,171,661	10,108,604
897	88,588,018	3,617,306	277,993,949	3,179,498	366,581,967	6,796,804
901	82,975,245	3,767,461	378,183,358	4,613,384	461,158,603	8,380,845
904	81,128,866	3,336,560	355,315,798	5,584,354	436,444,664	8,920,914
908	113,796,000	3,306,000	312,515,000	4,716,000	426,311,000	8,022,000
920	59,530,795	4,198,668	471,219,089	8,541,724	530,749,884	12,740,392
925	56,977,985	4,863,419	276,227,784	9,084,641	333,205,769	13,948,060

NOTE.—The statistics for 1908 in these tables are from data published by the Bureau of the Census.

SHAD AND ALEWIFE FISHERIES OF THE POTOMAC RIVER

In 1929, these fisheries were prosecuted by 773 fishermen who used 449 motor and other small boats, 424 pound nets, 483 gill nets having a combined area of 472,780 square yards, and 5 haul seines having a combined length of 3,900 yards.

The shad fishery yielded 317,253 fish that weighed 1,052,284 pounds, valued at $141,589, to the fishermen. Compared with the yield for 1928, this is a decrease of 56 per cent in number, 49 per cent in weight, and 34 per cent in value. Of the total number, 78 per cent were taken by Virginia fishermen and the remaining 22 per cent by fishermen from Maryland.

The alewife fishery yielded 7,711,030 fish that weighed 3,084,412 pounds, valued at $54,916, to the fishermen. This is a decrease of 48 per cent in number, 48 per cent in weight, and 6 per cent in value as compared with the yield for 1928. Of the total number, 89 per cent were taken by Virginia fishermen and the remaining 11 per cent by Maryland fishermen.

Shad and alewife fisheries of the Potomac River, 1929

Items	Maryland			Virginia			Total		
	Number	*Pounds*	*Value*	*Number*	*Pounds*	*Value*	*Number*	*Pounds*	*Value*
Fishermen	192			581			773		
Rowboats	67			134			201		
Motor boats	46			202			248		
Pound nets	66			358			424		
Gill nets	63			420			483		
Square yards	290, 577			182, 203			472, 780		
Haul seines	3			2			5		
Yards	900			3, 000			3, 900		
Shad caught:									
With pound nets	5, 346	18, 541	$3, 064	187, 343	611, 927	$93, 981	192, 689	630, 468	$97, 045
With gill nets	48, 137	161, 849	16, 877	60, 197	210, 985	24, 452	108, 334	372, 834	41, 329
With haul seines	15, 130	45, 407	2, 735	1, 100	3, 575	480	16, 230	48, 982	3, 215
Total	68, 613	225, 797	22, 676	248, 640	826, 487	118, 913	317, 253	1, 052, 284	141, 589
Alewives caught:									
With pound nets	809, 000	323, 600	6, 625	6, 641, 530	2, 656, 612	46, 584	7, 450, 530	2, 980, 212	53, 209
With gill nets				75, 500	30, 200	707	75, 500	30, 200	707
With haul seines	75, 000	30, 000	450	110, 000	44, 000	550	185, 000	74, 000	1, 000
Total	884, 000	353, 600	7, 075	6, 827, 030	2, 730, 812	47, 841	7, 711, 030	3, 084, 412	54, 916

Catch of shad in the Potomac River for various years, 1896 to 1929

Year	Maryland			Virginia			Total		
	Number	*Pounds*	*Value*	*Number*	*Pounds*	*Value*	*Number*	*Pounds*	*Value*
1896	233, 238	874, 643	$20, 524	450, 825	1, 690, 594	$43, 084	684, 063	2, 565, 237	$63, 608
1901	146, 000	547, 500	14, 800	648, 462	2, 431, 733	104, 566	794, 462	2, 979, 233	119, 366
1904	83, 147	311, 801	16, 343	289, 500	1, 085, 625	51, 709	372, 647	1, 397, 426	68, 052
1909	31, 158	116, 843	9, 232	172, 813	648, 049	44, 500	203, 971	764, 892	53, 732
1915	17, 196	64, 485	6, 827	165, 206	619, 523	65, 300	182, 402	684, 008	72, 127
1919	94, 512	354, 420	56, 833	449, 957	1, 687, 339	275, 564	544, 469	2, 041, 759	332, 397
1920	80, 944	302, 237	55, 963	448, 414	1, 677, 543	278, 501	529, 358	1, 979, 780	334, 464
1921	49, 681	138, 207	25, 191	356, 191	1, 022, 231	182, 179	405, 872	1, 160, 438	207, 370
1922	203, 682	706, 501	95, 140	680, 494	2, 409, 070	324, 882	884, 176	3, 115, 571	420, 022
1923	93, 619	308, 729	52, 917	257, 927	878, 653	145, 702	351, 546	1, 187, 382	198, 619
1924	37, 505	127, 285	20, 469	134, 805	450, 925	67, 981	172, 310	578, 210	88, 450
1925	46, 008	157, 786	35, 310	158, 574	538, 846	128, 088	204, 582	696, 632	163, 398
1926	51, 601	162, 861	34, 808	285, 061	871, 345	182, 653	336, 662	1, 034, 206	217, 461
1927	30, 720	103, 728	17, 894	191, 601	582, 853	95, 931	222, 321	686, 581	113, 825
1928	138, 496	383, 126	37, 588	577, 924	1, 694, 496	177, 099	716, 420	2, 077, 622	214, 687
1929	68, 613	225, 797	22, 676	248, 640	826, 487	118, 913	317, 253	1, 052, 284	141, 589

NOTE.—The number of shad taken in the Potomac River in 1878 was 186,000; in 1880, 552,872; in 1889 868,900; in 1890, 731,453; and in 1891, 621,977.

Catch of alewives in the Potomac River for various years, 1896 to 1929

Year	Maryland			Virginia			Total		
	Number	*Pounds*	*Value*	*Number*	*Pounds*	*Value*	*Number*	*Pounds*	*Value*
1896 [1]	--------	--------	------	--------	--------	------	24, 437, 885	9, 775, 154	$39, 003
1909	4, 883, 000	1, 953, 200	$10, 369	24, 601, 040	9, 840, 416	$42, 854	29, 484, 040	11, 793, 616	53, 223
1915	335, 000	134, 000	1, 420	7, 276, 428	2, 910, 571	30, 741	7, 611, 428	3, 044, 571	32, 161
1919	1, 488, 583	772, 867	15, 508	7, 379, 319	2, 904, 054	45, 508	8, 867, 902	3, 676, 921	61, 016
1920	1, 077, 775	538, 888	13, 940	7, 681, 561	3, 813, 780	41, 197	8, 759, 336	4, 352, 668	55, 137
1921	1, 395, 000	558, 000	9, 010	8, 908, 510	3, 563, 404	35, 031	10, 303, 510	4, 121, 404	44, 041
1922	1, 292, 500	517, 000	3, 700	10, 074, 500	4, 029, 800	34, 642	11, 367, 000	4, 546, 800	38, 342
1923	2, 119, 787	847, 916	8, 764	9, 308, 782	3, 722, 912	40, 657	11, 428, 569	4, 570, 828	49, 421
1924	1, 834, 000	733, 600	6, 855	13, 299, 388	5, 319, 156	49, 667	15, 133, 388	6, 052, 756	56, 552
1925	415, 000	166, 000	2, 070	7, 420, 380	2, 968, 152	35, 271	7, 835, 380	3, 134, 152	37, 341
1926	1, 295, 020	518, 600	6, 518	12, 500, 828	5, 000, 330	48, 848	13, 795, 848	5, 518, 930	55, 366
1927	1, 272, 000	508, 699	5, 741	10, 336, 067	4, 136, 666	44, 847	11, 608, 067	4, 645, 365	50, 588
1928	1, 801, 475	720, 590	9, 565	12, 982, 180	5, 182, 472	48, 732	14, 783, 655	5, 903, 062	58, 297
1929	884, 000	353, 600	7, 075	6, 827, 030	2, 730, 812	47, 841	7, 711, 030	3, 084, 412	54, 916

[1] Data not enumerated separately for the two States.

TRADE IN FRESH AND FROZEN FISHERY PRODUCTS IN WASHINGTON, D. C.

The municipal fish wharf and market in Washington, D. C., was built about 13 years ago in the southwestern part of the city on an arm of the Potomac River. At the present time 16 firms have stalls in the market, and 6 firms are in private buildings across the street. Altogether they employ about 71 persons. These firms conduct a wholesale and retail business; chiefly wholesale, however. Some of the fish from the boats and vessels are sold at auction direct to the wholesalers. Several wholesalers also sell fish by auction to the hucksters. The greater part of the business in the market is transacted at a set price.

Although the market is so situated that fishing boats may land their fish directly, only about 10 per cent of the fish are received in this way. The greater part arrive by truck from points in Maryland and Virginia, especially from the vicinity of Solomons and Galesville. Fish arriving by rail from points along the Atlantic coast, Great Lakes, or the Pacific coast are also transported by truck from the rail heads, as the market has no direct rail connections.

During 1929 the receipts of fresh and frozen fishery products amounted to 9,208,465 pounds, or an increase of 12 per cent compared with the previous year, and 19 per cent compared with the 5-year average.

There has been very little change in the kinds of fish handled at the market in the past nine years. Taking those species that constituted 75 per cent of the trade for the various years from 1921 to 1929, squeteagues, or "sea trout," made up the greater portion of the trade each year. Croaker has usually been second, river herring third, oysters fourth or fifth, shad fourth or fifth, haddock sixth, and butterfish seventh or eighth. Striped bass has generally been seventh in importance, but during 1929 dropped to ninth in importance.

The trade at the municipal fish market is most active during the months from March to October, inclusive—the largest quantities being handled during the months of April and May. The unusual activity during these latter months can be accounted for chiefly by the large amounts of river herring, croaker, and shad, which are handled mainly during these two months.

The retail business in Washington, D. C., is carried on by the stores in the municipal market, stores in markets uptown, grocery stores, meat markets, and hucksters with horse and wagon. There are about 35 of these fish peddlers doing business at the present time, although their numbers are said to become less each year due to the fact that many grocery stores in the city are now marketing fish.

Not all of the fish consumed in the District of Columbia goes through the municipal fish wharf and market. It has been estimated that about 3,000,000 pounds are received direct from outside sources by hotels, fish markets, and restaurants. This, added to the amount received at the municipal fish wharf, would make a total of about 12,200,000 pounds of fresh and frozen fishery products handled in the District of Columbia during 1929. Virtually the entire amount was consumed in the district. It is estimated that the population of the District of Columbia was 565,000 on July 1, 1929, making the per capita consumption of fresh and frozen fishery products during 1929 about 22 pounds in the round weight. During 1928 the per capita consumption was figured at 19 pounds in the round weight.

Fishery products received at municipal fish wharf and market, Washington, D. C., 1929, in pounds

Species	January	February	March	April	May	June	July
Bass, black or sea	300		500	600	2,800	2,100	1,800
Bluefish			200		4,100	9,600	26,100
Butterfish	3,100	2,100	600	4,300	51,700	125,900	78,100
Carp	12,700	6,300	16,800	26,100	12,500	12,200	4,400
Catfish	10,600	9,100	46,100	21,800	10,800	16,500	7,200
Cod	1,000	2,300	1,800	1,800	700	1,000	2,000
Crappie	100						
Croaker	28,000	30,300	192,000	284,100	201,500	173,600	243,000
Cusk			200				
Eels	225		2,100	1,200	900	100	300
Flounders	22,200	33,500	13,900	20,400	27,900	11,200	7,800
Haddock	44,700	42,420	46,660	39,530	42,130	39,540	40,850
Hake	7,000	400	100				
Halibut	7,200	4,300	6,700	7,600	5,800	3,900	5,800
Herring, river	18,700	48,800	129,600	364,200	185,400	4,800	
Hickory shad or "jacks"	3,650	1,100	1,500	4,000	200		
Kingfish	400	200	400	6,600	400		
Mackerel	34,000	14,400	3,400	13,600	19,800	39,800	37,400
Mullet	3,400	1,100	400	200			
Perch	15,300	18,700	58,700	20,800	6,800	6,800	2,400
Pigfish					400		
Pike or pickerel	2,400	100	900				
Pollock	11,700	3,600			1,200	800	1,700
Pompano				400			100
Redfish or red drum	150				510	90	
Red snapper	600	200		800			
Salmon	3,500	3,100	1,200	200		600	2,800
Scup or porgy		300			1,000	5,000	7,100
Shad	15,150	30,200	146,600	260,400	236,300	13,300	
Sheepshead	200	800	200			300	
Smelt	4,880	2,400	700				
Spot	2,000	5,200	400	1,200	8,700	21,300	25,200
Squeteagues or "sea trout"	22,700	33,000	16,300	61,100	218,700	243,500	266,000
Squid					400		200
Striped bass	9,500	15,100	41,500	51,700	16,200	10,300	29,200
Sturgeon				1,450	650	50	
Sunfish		200					
Swordfish						200	1,300
Tilefish	200	1,200	800	1,300	700	200	
Whiting	5,400	1,700		200			
Clams, hard (meat)	3,776	2,944	5,568	4,192	6,880	6,944	6,400
Oysters:							
In the shell (meat)	30,429	17,962	11,074	7,021	196		
Opened (meat)	74,201	51,835	27,184	1,155			
Scallops	160	160	80	240	560	160	80
Crabs			750	6,870	30,900	92,790	128,610
Crabmeat	1,630	1,390	1,965	7,300	13,145	26,035	32,000
Crawfish or spiny lobster			50				
Lobster	150	250	550	1,700	450	350	50
Shrimp	3,000	600	3,100	3,400	5,200	13,400	7,100
Turtles	108	274	50	384	166	386	182
Frogs				225	95	29	
Total	404,409	387,535	780,631	1,228,067	1,115,782	882,774	965,772

Fishery products received at municipal fish wharf and market, Washington, D. C., 1929, in pounds—Continued

Species	August	September	October	November	December	Total
Bass, black or sea	2,000	200		1,000	800	12,100
Bluefish	37,200	33,800	29,300	9,400	200	149,900
Butterfish	52,000	41,000	13,400	24,300	8,800	405,300
Carp	4,600	6,600	8,600	12,800	19,400	143,000
Catfish	4,200	10,800	26,200	22,700	10,400	196,400
Cod	700	1,000	1,100	3,600	600	17,600
Crappie						100
Croaker	161,400	87,600	61,800	55,600	62,800	1,581,700
Cusk						200
Eels	100	600	4,100	2,100	800	12,525
Flounders	10,000	8,400	21,400	21,800	16,400	214,900
Gizzard shad			1,600	3,700	4,200	9,500
Haddock	35,770	40,120	53,060	42,050	32,310	499,140
Hake	100		10,800	83,800	16,000	118,200
Halibut	4,400	3,800	9,400	4,400	7,000	70,300
Herring, river		600				752,100
Hickory shad or "jacks"						10,450
Kingfish	200	400	800	6,300	4,300	20,000
Mackerel	19,200	17,000	26,000	11,800	14,000	250,400
Mullet		5,200	800	2,600	1,400	15,100
Perch	3,000	2,800	7,600	11,900	22,200	177,000
Pigfish		1,200				1,600
Pike or pickerel		400	3,400	1,800	2,200	11,200
Pollock	2,800	3,000	1,500	5,400	2,700	34,400
Pompano						500
Redfish or red drum	600	420	30	30	1,200	3,030
Red snapper	200			800	1,800	4,400
Salmon	1,600	2,200	7,700	1,900	3,800	28,600
Scup or porgy	200	600		1,600		15,800
Shad						701,950
Shark	36					36
Sheepshead						1,500
Smelt				150	815	8,945
Spot	23,200	21,600	49,700	11,200	2,100	171,800
Squeteagues or "sea trout"	310,400	353,000	271,300	143,200	72,400	2,011,600
Squid	200			1,400		2,200
Striped bass	15,300	14,300	81,600	25,700	11,700	322,100
Sturgeon		72	150			2,372
Sunfish						200
Swordfish	950	500	600	300		3,850
Tilefish		100	700	1,200	1,000	7,400
Whitefish		200				200
Whiting			3,000	2,000	15,000	27,300
Clams, hard (meat)	6,816	5,344	5,408	3,936	2,976	[1] 61,184
Oysters:						
In the shell (meat)		7,532	25,774	28,133	31,087	[2] 159,208
Opened (meat)		12,458	72,955	78,218	69,919	[3] 387,925
Scallops		240	640	800	1,760	4,880
Crabs	84,750	31,155	4,950			380,775
Crabmeat	21,610	9,430	6,625	2,725	1,950	126,405
Crawfish or spiny lobster	100			50		200
Crawfish or spiny lobster meat	10					10
Lobster	100	250	200	250		4,300
Lobster meat	100					100
hrimp	9,000	8,600	7,100	2,800	1,000	64,300
Turtles	8	168	5	24	176	1,931
Frogs						349
Total	812,850	732,689	819,297	633,466	445,193	9,208,465

[1] 7,648 bushels. [2] 22,744 bushels. [3] 47,021 gallons.

NOTE.—The clams have been reduced to pounds on the basis of 8 pounds of meat to a bushel, the oysters n the basis of 7 pounds of meat to a bushel and 8¼ pounds to a gallon.

Fishery products received at municipal fish wharf and market, Washington, D. C., 1921 to 1929

Year	Pounds	Year	Pounds
921	9,066,744	1926	7,511,427
922	6,442,663	1927	7,997,673
923	5,678,157	1928	8,198,957
924	8,007,704	1929	9,208,465
925	7,041,058		

FISHERIES OF THE SOUTH ATLANTIC STATES

During 1928 the catch of fishery products of the South Atlantic States (North Carolina, South Carolina, Georgia, and the east coast of Florida) exceeded that in any year for which there are records, except that in 1927. These fisheries gave employment to 11,882 fishermen or 3 per cent more than in 1927. Of the total number of fishermen employed during 1928, 1,306 regular fishermen were engaged on vessels, and 6,449 regular and 4,127 casual fishermen were employed in the shore and boat fisheries. Their catch amounted to 258,440,435 pounds, valued at $6,027,154. This is a decrease of 1 per cent in the catch and an increase of 6 per cent in the value of the catch as compared with the quantity and its value for 1927. Of the total catch in 1928, 210,131,838 pounds, valued at $3,757,326, were fish, and 48,308,597 pounds, valued at $2,269,828, were shellfish and miscellaneous products.

Based on the value to the fishermen, shrimp, with a production of 33,310,020 pounds, valued at $1,457,941, was the most important product. Shad was second with a production of 4,446,851 pounds, valued at $817,433. Other products of importance were menhaden, 150,843,955 pounds, valued at $584,638; oysters, 10,588,774 pounds of meats, valued at $426,958; squeteagues or "sea trout," 6,403,589 pounds, valued at $420,155; and mullet, 9,376,652 pounds, valued at $420,021. Other products were valued individually at less than $200,000.

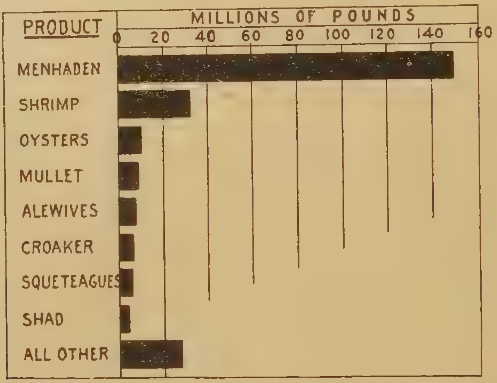

FIGURE 22.—Yield of principal fishery products in the South Atlantic States, 1928

The industries related to the fisheries of the South Atlantic States gave employment to 3,496 persons, of whom 233 were engaged in transporting fishery products, 1,653 were in the wholesale trade and received $704,687 in salaries and wages, and 1,610 were in the prepared-products and by-products trade and received $658,185 in salaries and wages. There were 228 establishments in the wholesale fish trade handling primary products and 60 establishments were in the prepared-products and by-products trade. The latter manufactured products, valued at $4,112,733, consisting principally of canned oysters, shrimp, and menhaden products. In addition, individual fishermen in the South Atlantic States prepared fishery products valued at $80,860, consisting principally of salted fish.

Fisheries of the South Atlantic States, 1928

SUMMARY OF CATCH

Products	North Carolina		South Carolina		Georgia	
	Pounds	*Value*	*Pounds*	*Value*	*Pounds*	*Value*
ish	134, 795, 134	$2, 125, 118	1, 159, 120	$125, 208	30, 892, 594	$236, 631
hellfish, etc	7, 104, 028	504, 096	6, 273, 294	191, 606	11, 176, 186	629, 656
Total	141, 899, 162	2, 629, 214	7, 432, 414	316, 814	42, 068, 780	866, 287

Products	Florida (east coast)		Total	
	Pounds	*Value*	*Pounds*	*Value*
ish	43, 284, 990	$1, 270, 369	210, 131, 838	$3, 757, 326
hellfish, etc	23, 755, 089	944, 470	48, 308, 597	2, 269, 828
Total	67, 040, 079	2, 214, 839	258, 440, 435	6, 027, 154

OPERATING UNITS: BY STATES

Items	North Carolina	South Carolina	Georgia	Florida (east coast)	Total
	Number	*Number*	*Number*	*Number*	*Number*
ishermen:					
On vessels	944	26	146	190	1, 306
On boats and shore—					
Regular	2, 656	552	686	2, 555	6, 449
Casual	2, 463	927	456	281	4, 127
Total	6, 063	1, 505	1, 288	3, 026	11, 882
essels:					
Motor	75	4	26	25	130
Net tonnage	1, 648	53	351	469	2, 521
Sail	63				63
Net tonnage	568				568
Total vessels	138	4	26	25	193
Total net tonnage	2, 216	53	351	469	3, 089
oats:					
Motor	1, 284	43	229	1, 202	2, 758
Other	1, 893	961	508	1, 131	4, 493
ccessory boats	131	8	55	14	208
pparatus:					
Purse seines—					
Menhaden	37		3	4	44
Yards	12, 520		900	1, 200	14, 620
Other	3			3	6
Yards	600			900	1, 500
Haul seines—					
Common	591	39	13	78	721
Yards	94, 930	4, 325	1, 405	54, 130	154, 790
Long	29				29
Yards	32, 500				32, 500
Gill nets—					
Drift	224	118	191	944	1, 477
Square yards	188, 435	96, 367	139, 495	1, 507, 500	1, 931, 797
Set	12, 517	371	179	6	13, 073
Square yards	2, 138, 944	118, 530	8, 608	7, 200	2, 273, 282
Runaround	661	16	9		686
Square yards	289, 051	4, 765	3, 565		297, 381
Trammel nets				3	3
Square yards				1, 350	1, 350
Lines—					
Troll				753	753
Hooks				1, 427	1, 427
Hand	191	84	8	539	822
Hooks	357	417	16	569	1, 359
Trot with hooks	24			356	380
Hooks	600			58, 600	59, 200
Trot with baits or snoods	147	4	77	2	230
Baits or snoods	132, 300	300	5, 404	1, 000	139, 004
Pound nets	2, 406			21	2, 427
Weirs	16				16
Wheels	5				5
Fyke nets	723		50	22	795
Dip nets—					
Common	287			46	333
Drop			6		6

Fisheries of the South Atlantic States, 1928—Continued

OPERATING UNITS: BY STATES—Continued

Items	North Carolina	South Carolina	Georgia	Florida (east coast)	Total
Apparatus—Continued.	*Number*	*Number*	*Number*	*Number*	*Number*
Cast nets		3	18	19	40
Bow nets	19				19
Drag nets	81				81
Push nets	11				11
Otter trawls—					
Fish	1				1
Yards at mouth	40				40
Shrimp	42	9	238	353	642
Yards at mouth	715	453	13, 175	6, 673	21, 016
Box traps	50				50
Turtle traps	4				4
Pots, eel	1, 544			65	1, 609
Sea crawfish				1, 998	1, 998
Spears	83	34		10	127
Dredges—					
Oyster	200	4			204
Yards at mouth	626	16			642
Scallop	773				773
Yards at mouth	742				742
Tongs	492	301	179	94	1, 066
Rakes	1, 437	60			1, 497
Forks				62	62
Grabs		397	258		655
Hooks, stone crab				44	44

CATCH: BY STATES

Species	North Carolina		South Carolina		Georgia	
FISH	*Pounds*	*Value*	*Pounds*	*Value*	*Pounds*	*Value*
Alewives	7, 808, 031	$110, 727	2, 000	$100		
Black bass	90, 436	13, 333				
Bluefish	753, 979	45, 830	3, 500	280	50, 000	$5, 000
Bonito	7, 950	160				
Bowfin	20, 119	396				
Butterfish	111, 966	2, 576				
Cabio or crab eater	250	5				
Carp	754, 820	40, 477	1, 800	54		
Catfish and bullheads	483, 233	16. 072	2, 400	87	140, 860	14, 055
Cero	1, 500	120				
Cod	296	10				
Crappie	4, 404	429				
Crevalle	780	30				
Croaker	6, 775, 264	101, 362	12, 100	630	10, 300	1, 030
Drum, black	8, 687	220	3, 550	106	3, 250	170
Drum, red, or redfish	237, 435	5, 942	4, 870	391	6, 000	375
Eels	76, 733	5, 753				
Flounders	455, 214	25, 550	20, 700	2, 040	15, 690	1, 263
Garfish	1, 000	5				
Gizzard shad	109, 635	1, 539				
Groupers					8, 274	414
Grunts	1, 850	143	5, 625	450		
Hake	380	19				
Harvestfish or "starfish"	781, 794	19, 537				
Hickory shad	397, 184	19, 269	14, 348	1, 976	53, 552	6, 045
Jewfish					3, 200	160
King whiting or "kingfish"	780, 236	34, 053	61, 500	5, 290	56, 000	2, 450
Menhaden	99, 302, 355	430, 998			30, 030, 000	113, 310
Mullet	2, 501, 553	143, 683	290, 980	17, 475	57, 325	4, 175
Muttonfish					1, 650	132
Pigfish	249, 768	4, 835				
Pike	18, 593	1, 753				
Pinfish or sailor's choice	100	1				
Pollock	150	5				
Pompano	8, 395	926				
Porgies	125	10				
Seabass	423, 867	27, 874	271, 000	21, 650	85, 200	8, 380
Shad	3, 118, 415	573, 007	320, 237	66, 314	317, 267	73, 676
Sharks			6, 300	500		
Sheepshead, salt water	22, 182	1, 164			1, 470	200
Snapper, red	2, 350	174			22, 500	1, 920
Spadefish	13, 756	333				
Spanish mackerel	175, 880	15, 079				
Spot	2, 954, 349	66, 182	89, 830	2, 825	7, 900	640
Squeteagues or "sea trout"	5, 127, 459	297, 308	19, 520	1, 400	18, 116	2, 567
Squirrelfish			5, 500	440		

Fisheries of the South Atlantic States, 1928—Continued

CATCH: BY STATES—Continued

Species	North Carolina		South Carolina		Georgia	
FISH—continued	*Pounds*	*Value*	*Pounds*	*Value*	*Pounds*	*Value*
riped bass	507, 406	$71, 935			740	$107
urgeon	8, 435	1, 279	23, 360	$3, 200	1, 750	350
ckers	15, 639	847				
nfish	22, 227	525				
ripletail	143	6			1, 550	212
una	71	4				
hite perch	458, 356	30, 367				
hiting	438	12				
ellow perch	175, 080	12, 095				
ellowtail	24, 866	1, 159				
Total	134, 795, 134	2, 125, 118	1, 159, 120	125, 208	30, 892, 594	236, 631
SHELLFISH, ETC.						
rabs, hard	846, 917	16, 821	2, 370	500	569, 341	19, 416
rabs, soft	628, 944	96, 365				
hrimp	845, 349	30, 447	431, 441	17, 526	9, 526, 044	545, 354
lams, hard	324, 232	61, 168	26, 184	4, 005	800	125
ysters, market, public	2, 895, 207	166, 690	5, 077, 310	143, 827	199, 640	12, 976
ysters, market, private	4, 480	800	720, 405	19, 040	848, 785	41, 694
ysters, seed, public	163, 800	5, 850				
callops, bay	1, 394, 124	125, 845				
ctopus	600	76	2, 000	400		
errapin	28	7	13, 584	6, 308	31, 576	10, 091
urtles	347	27				
Total	7, 104, 028	504, 096	6, 273, 294	191, 606	11, 176, 186	629, 656
Grand total	141, 899, 162	2, 629, 214	7, 432, 414	316, 814	42, 068, 780	866, 287

Species	Florida (east coast)		Total	
FISH	*Pounds*	*Value*	*Pounds*	*Value*
lewives	370, 128	$2, 935	8, 180, 159	$113, 762
mberjack	11, 847	530	11, 847	530
arracuda	12, 000	360	12, 000	360
lack bass	140, 616	16, 241	231, 052	29, 574
luefish	599, 020	68, 454	1, 406, 499	119, 564
lue runner or hardtail	123, 324	4, 177	123, 324	4, 177
onito	2, 000	300	9, 950	460
owfin			20, 119	396
utterfish	1, 440	43	113, 406	2, 619
abio or crab eater	200	10	450	15
arp			756, 620	40, 531
atfish and bullheads	3, 203, 091	130, 601	3, 829, 584	160, 815
ero	5, 000	250	6, 500	370
od			296	10
rappie	387, 457	27, 212	391, 861	27, 641
revalle	213, 736	6, 483	214, 516	6, 513
roaker	43, 839	1, 458	6, 841, 503	104, 480
olphin	6, 000	600	6, 000	600
rum, black	125, 450	3, 556	140, 937	4, 052
rum, red, or redfish	202, 024	9, 626	450, 329	16, 334
els	16, 013	646	92, 746	6, 399
lounders	46, 557	1, 573	538, 161	30, 426
arfish			1, 000	5
izzard shad			109, 635	1, 539
roupers	146, 966	6, 402	155, 240	6, 816
runts	38, 643	1, 531	46, 118	2, 124
ake			380	19
arvestfish or “starfish”			781, 794	19, 537
ickory shad	35, 480	1, 419	500, 564	28, 709
ogfish	3, 000	90	3, 000	90
ewfish	13, 900	401	17, 100	561
ingfish or “king mackerel”	2, 645, 656	136, 717	2, 645, 656	136, 717
ing whiting or “kingfish”	376, 490	14, 142	1, 274, 226	55, 935
adyfish	3, 000	60	3, 000	60
Menhaden	21, 511, 600	40, 330	150, 843, 955	584, 638
Mojarro	477, 072	21, 471	477, 072	21, 471
Moonfish	192	5	192	5
Mullet	6, 526, 794	254, 688	9, 376, 652	420, 021
Muttonfish	114, 900	10, 182	116, 550	10, 314
ermit	3, 895	120	3, 895	120
igfish	124, 078	3, 922	373, 846	8, 757
ike	2, 000	100	20, 593	1, 853

Fisheries of the South Atlantic States, 1928—Continued

CATCH: BY STATES—Continued

Species	Florida (east coast)		Total	
	Pounds	*Value*	*Pounds*	*Value*
FISH—continued				
Pinfish or sailors choice	179, 301	5, 024	179, 401	5, 025
Pollock	------	------	150	5
Pompano	283, 889	78, 374	292, 284	79, 300
Porgies	22, 000	760	22, 125	770
Seabass	38, 169	4, 213	818, 236	62, 117
Shad	690, 932	104, 436	4, 446, 851	817, 433
Sharks	------	------	6, 300	500
Sheepshead, salt-water	75, 744	3, 514	99, 396	4, 878
Snapper, mangrove	89, 505	4, 870	89, 505	4, 870
Snapper, red	47, 050	4, 629	71, 900	6, 723
Snook or sergeantfish	250, 994	12, 265	250, 994	12, 265
Spadefish	11, 904	381	25, 660	714
Spanish mackerel	2, 074, 382	135, 909	2, 250, 262	150, 988
Spot	228, 153	7, 145	3, 280, 232	76, 792
Squeteagues or "sea trout"	1, 238, 494	118, 880	6, 103, 589	420, 155
Squirrelfish	------	------	5, 500	440
Striped bass	------	------	508, 146	72, 042
Sturgeon	------	------	33, 545	4, 829
Suckers	------	------	15, 639	847
Sunfish	456, 231	18, 144	478, 458	18, 669
Tripletail	400	16	2, 093	234
Tuna	------	------	71	4
White perch	------	------	458, 356	30, 367
Whiting	------	------	438	12
Yellow perch	------	------	175, 080	12, 095
Yellowtail	64, 434	5, 174	89, 300	6, 333
Total	43, 284, 990	1, 270, 369	210, 131, 838	3, 757, 326
SHELLFISH, ETC.				
Crabs, hard	134, 276	7, 334	1, 552, 904	44, 071
Crabs, soft	------	------	628, 944	96, 365
Crabs, stone	35, 000	3, 850	35, 000	3, 850
Sea crawfish or spiny lobster	367, 106	29, 368	367, 106	29, 368
Shrimp	22, 507, 186	864, 614	33, 310, 020	1, 457, 941
Clams, hard	25, 840	$3, 092	377, 056	$68, 390
Oysters, market, public	577, 787	30, 141	8, 749, 944	353, 634
Oysters, market, private	101, 360	5, 940	1, 675, 030	67, 474
Oysters, seed, public	------	------	163, 800	5, 850
Scallops, bay	------	------	1, 394, 124	125, 845
Octopus	------	------	2, 600	476
Terrapin	------	------	45, 188	16, 406
Turtles	6, 534	131	6, 881	158
Total	23, 755, 089	944, 470	48, 308. 597	2, 269, 828
Grand total	67, 040, 079	2, 214, 839	258, 440, 435	6, 027, 154

CATCH OF CERTAIN SHELLFISH SHOWN IN NUMBERS AND BUSHELS

Products	North Carolina		South Carolina		Georgia	
	Quantity	*Value*	*Quantity*	*Value*	*Quantity*	*Value*
Crabs, hard ... number	2, 540, 751	$16, 821	7, 110	$500	1, 708, 023	$19, 416
Crabs, soft ... do	1, 886, 832	96, 365	------	------	------	------
Clams, hard ... bushels	40, 529	61, 168	3, 273	4, 005	100	125
Oysters, market, public ... do	413, 601	166, 690	725, 330	143, 827	28, 520	12, 976
Oysters, market, private ... do	640	800	102, 915	19, 040	121, 255	41, 694
Oysters, seed, public ... do	23, 400	5, 850	------	------	------	------
Scallops ... do	232, 354	125, 845	------	------	------	------

Products	Florida (east coast)		Total	
	Quantity	*Value*	*Quantity*	*Value*
Crabs, hard ... number	402, 828	$7, 334	4, 658, 712	$44, 071
Crabs, soft ... do	------	------	1, 886, 832	96, 365
Crabs, stone ... do	46, 667	3, 850	46, 667	3, 850
Clams, hard ... bushels	3, 230	3, 092	47, 132	68, 390
Oysters, market, public ... do	82, 541	30, 141	1, 249, 992	353, 634
Oysters, market, private ... do	14, 480	5, 940	239, 290	67, 474
Oysters, seed, public ... do	------	------	23, 400	5, 850
Scallops ... do	------	------	232, 354	125, 845

Industries related to the fisheries of the South Atlantic States, 1928

Items	North Carolina	South Carolina	Georgia	Florida (east coast)	Total
Transporting:					
Persons engaged	45	143	44	1	233
Vessels—					
Motor	28	22	18	1	69
Net tonnage	295	246	223	16	780
Sail	----------	40	3	----------	43
Net tonnage	----------	389	23	----------	412
Total vessels	28	62	21	1	112
Total net tonnage	295	635	246	16	1, 192
Wholesale trade:					
Establishments	85	18	24	101	228
Persons engaged	440	236	395	582	1, 653
Salaries and wages	$138, 799	$56, 468	$148, 858	$360, 562	$704, 687
Prepared products and by-products industries:					
Establishments	21	18	13	8	60
Persons engaged	260	656	497	197	1, 610
Salaries and wages	$141, 580	$159, 720	$172, 338	$184, 547	$658, 185
Products	$1, 160, 482	$1, 028, 113	$886, 049	$1, 038, 089	$4, 112, 733
Products prepared by the fishermen	$69, 993	$10, 867	----------	----------	$80, 860

NORTH CAROLINA

In 1928 North Carolina ranked first among the States in the South Atlantic section in the importance of its fisheries, employing 51 per cent of the total number of fishermen and accounting for 55 per cent of the total catch. The fisheries and industries related to the fisheries employed 6,808 persons, which is 1 per cent less than the number employed in 1927. Of the total, 6,663 were fishermen, 45 were employed on transporting vessels, 440 in the wholesale trade, and 260 in the prepared products and by-products industries.

The total catch amounted to 141,899,162 pounds, valued at $2,629,214. This is a decrease of 2 per cent in the catch and 5 per cent in the value of the catch as compared with the catch and its value for 1927. Of the total value of the catch, that for shad accounted for 22 per cent; menhaden, 16 per cent; squeteagues or "sea trout," 11 per cent; and oysters, 7 per cent. Of the total production, that of menhaden accounted for 70 per cent; alewives, 6 per cent; croakers, 5 per cent; and squeteagues or "sea trout," 4 per cent.

OPERATING UNITS BY GEAR

The catch of fishery products in North Carolina during 1928 was taken by 6,063 fishermen, who used 75 motor vessels, 63 sailing vessels, 3,177 motor and other small boats, and 20 major types of gear. The vessels had a combined capacity of 2,216 net tons. The fisheries accounting for the greatest number of persons were the haul-seine fishery employing 2,049 fishermen and the rake fishery employing 1,437 fishermen.

CATCH BY GEAR

Three types of gear accounted for 88 per cent of the fish taken in the fisheries of North Carolina during 1928. Listed in order of their importance, they were purse seines, which accounted for 69 per cent of the catch; haul seines, 10 per cent; and pound nets, 9 per cent. The catch by purse seines consisted almost exclusively of menhaden; that by haul seines principally croakers, squeteagues or "sea trout," spot, alewives, and mullet; and that by pound nets chiefly alewives, squeteagues or "sea trout," shad, and croakers.

OPERATING UNITS BY COUNTIES

Carteret County was foremost in the number of persons fishing, accounting for 38 per cent of the total number. Dare County followed with 10 per cent. Other counties employing a considerable number of fishermen listed in order of their importance in this respect were Brunswick, New Hanover, Beaufort, and Currituck. Carteret County also ranked first in the number of vessels and motor and other small fishing boats operated accounting for 57 per cent of the total number of fishing vessels and 35 per cent of the motor and other small fishing boats. Beaufort County accounted for 17 per cent of the total number of vessels, and Dare County accounted for 12 per cent of the motor and other small fishing boats.

CATCH BY COUNTIES

Fishing was prosecuted along the coast and in the coastal rivers and bays of 25 counties of North Carolina during 1928. Ranked according to value the fisheries of Carteret County were most important, accounting for 58 per cent of the total catch and 35 per cent of the total value of the catch. Dare County was next in the value of the catch, accounting for 5 per cent of the quantity and 23 per cent of the value. Other counties listed in order of their importance with respect to value of the catch were Brunswick, Pamlico, Beaufort, and Chowan.

Fisheries of North Carolina, 1928

OPERATING UNITS: BY GEAR

Items	Purse seines		Haul seines		Gill nets			
	Menhaden	Other	Common	Long	Drift	Stake	Runaround	Set
Fishermen:	*No.*	*No.*	*No.*	*No.*	*No.*	*No.*	*No.*	*No.*
On vessels	603	-------	13	109	-------	4	2	-------
On boats and shore—								
Regular	7	21	1,310	61	168	185	375	415
Casual	9	-------	726	-------	167	108	127	131
Total	619	21	2,049	170	335	297	504	546
Vessels:								
Motor—								
5 to 10 tons	5	-------	3	22	-------	1	1	-------
11 to 20 tons	2	-------	-------	3	-------	-------	-------	-------
21 to 30 tons	4	-------	-------	-------	-------	-------	-------	-------
31 to 40 tons	6	-------	-------	-------	-------	-------	-------	-------
41 to 50 tons	7	-------	-------	-------	-------	-------	-------	-------
51 to 60 tons	5	-------	-------	-------	-------	-------	-------	-------
61 to 70 tons	3	-------	-------	-------	-------	-------	-------	-------
71 to 80 tons	2	-------	-------	-------	-------	-------	-------	-------
Total	34	-------	3	25	-------	1	1	-------
Net tonnage	1,348	-------	22	182	-------	6	6	-------
Sail—								
11 to 20 tons	-------	-------	-------	1	-------	-------	-------	-------
Total	-------	-------	-------	1	-------	-------	-------	-------
Net tonnage	-------	-------	-------	11	-------	-------	-------	-------
Total vessels	34	-------	3	26	-------	1	1	-------
Total net tonnage	1,348	-------	22	193	-------	6	6	-------
Boats:								
Motor	3	3	223	25	32	134	120	221
Other	4	6	345	19	161	98	280	179
Apparatus:								
Number	37	3	591	29	224	8,851	661	3,666
Length, yards	12,520	600	94,930	32,500	-------	-------	-------	-------
Square yards	-------	-------	-------	-------	188,435	646,188	289,051	1,492,756

Fisheries of North Carolina, 1928—Continued

OPERATING UNITS: BY GEAR—Continued

Items	Lines			Pound nets	Weirs	Wheels	Fyke nets	Dip nets	Bow nets	Drag nets	Push nets
	Hand	Trot with hooks	Trot with baits or snoods								
	No.	*No.*	*No.*	*No.*	*No.*	*No.*	*No.*	*No.*	*No.*	*No.*	*No.*
Fishermen:											
On vessels	13	------	------	------	------	------	------	2	------	------	------
On boats and shore—											
Regular	71	------	70	449	------	------	35	77	------	26	11
Casual	37	24	100	207	4	5	42	208	19	55	------
Total	121	24	170	656	4	5	77	287	19	81	11
Vessels:											
Motor—											
5 to 10 tons	3	------	------	------	------	------	------	1	------	------	------
Total	3	------	------	------	------	------	------	1	------	------	------
Net tonnage	25	------	------	------	------	------	------	7	------	------	------
Total vessels	3	------	------	------	------	------	------	1	------	------	------
Total net tonnage	25	------	------	------	------	------	------	7	------	------	------
Boats:											
Motor	29	------	91	281	------	------	24	------	------	------	------
Other	15	15	58	169	4	5	51	199	19	36	------
Apparatus:											
Number	191	24	147	2,406	16	5	723	287	19	81	11
Hooks, baits or snoods	357	600	132,300	------	------	------	------	------	------	------	------

Items	Other trawls		Box traps	Turtle traps	Eel pots	Spears	Dredges		Tongs	Rakes	By hand	Total, exclusive of duplication
	Fish	Shrimp					Oyster	Scallop				
	No.	*No.*	*No.*	*No.*	*No.*	*No.*	*No.*	*No.*	*No.*	*No.*	*No.*	*No.*
Fishermen:												
On vessels	4	9	------	------	------	------	184	2	16	------	------	944
On boats and shore—												
Regular	------	77	------	------	30	54	81	193	190	659	73	2,656
Casual	------	2	15	1	15	29	14	106	252	778	42	2,463
Total	4	88	15	1	45	83	279	301	458	1,437	115	6,063
Vessels:												
Motor—												
5 to 10 tons	1	3	------	------	------	------	1	1	6	------	------	43
11 to 20 tons	------	------	------	------	------	------	------	------	1	------	------	5
21 to 30 tons	------	------	------	------	------	------	------	------	------	------	------	4
31 to 40 tons	------	------	------	------	------	------	------	------	------	------	------	6
41 to 50 tons	------	------	------	------	------	------	------	------	------	------	------	7
51 to 60 tons	------	------	------	------	------	------	------	------	------	------	------	5
61 to 70 tons	------	------	------	------	------	------	------	------	------	------	------	3
71 to 80 tons	------	------	------	------	------	------	------	------	------	------	------	2
Total	1	3	------	------	------	------	1	1	7	------	------	75
Net tonnage	10	23	------	------	------	------	7	8	55	------	------	1,648
Sail—												
5 to 10 tons	------	------	------	------	------	------	48	------	------	------	------	48
11 to 20 tons	------	------	------	------	------	------	13	------	------	------	------	14
21 to 30 tons	------	------	------	------	------	------	1	------	------	------	------	1
Total	------	------	------	------	------	------	62	------	------	------	------	63
Net tonnage	------	------	------	------	------	------	557	------	------	------	------	568
Total vessels	1	3	------	------	------	------	63	1	7	------	------	138
Total net tonnage	10	23	------	------	------	------	564	8	55	------	------	2,216
Boats:												
Motor	------	39	3	------	27	------	13	250	108	22	5	1,284
Other	------	------	------	1	13	72	32	19	289	559	78	1,893
Apparatus:												
Number	1	42	50	4	1,544	83	200	773	492	1,437	------	------
Yards at mouth	40	715	------	------	------	------	626	742	------	------	------	------

Fisheries of North Carolina, 1928—Continued

CATCH: By gear

Species	Purse seines				Haul seines			
	Menhaden		Other		Common		Long	
	Pounds	*Value*	*Pounds*	*Value*	*Pounds*	*Value*	*Pounds*	*Value*
Alewives					1,871,676	$26,200		
Black bass					85,482	12,519		
Bluefish	600	$60			114,665	6,425	123,040	$5,274
Bonito					2,950	85		
Bowfin					11,280	148		
Butterfish					5,040	146	675	27
Carp					527,645	27,858	3,500	70
Catfish and bullheads					195,558	5,063	3,500	70
Cod					50	2		
Crappie					1,434	74		
Crevalle					480	24		
Croaker					1,520,103	22,549	2,400,975	35,142
Drum, black					3,722	113	100	2
Drum, red, or redfish					77,574	2,181	79,900	1,548
Eels					1,268	27		
Flounders					31,236	1,612	10,005	445
Garfish					600	3		
Gizzard shad					20,220	261		
Harvestfish or "starfish"					18,060	585	2,475	99
Hickory shad					48,822	2,442	2,000	110
King whiting or "kingfish"					159,600	6,378	14,710	640
Menhaden	98,583,200	428,124			605,455	2,448	113,700	426
Mullet	22,835	1,142			1,417,169	81,120	2,200	110
Pigfish					113,673	2,459	100,850	1,554
Pike					9,070	861		
Pollock					150	5		
Pompano					3,334	434	2,380	231
Shad					140,207	20,714	1,080	231
Sheepshead, salt-water					8,970	327	4,750	341
Spadefish					400	12	650	26
Spanish mackerel					6,361	826	1,715	168
Spot					1,120,277	30,809	754,300	13,050
Squeteagues or "sea trout"					1,270,350	92,071	673,250	39,415
Striped bass			4,985	$614	218,452	28,068	3,095	276
Sturgeon					3,452	655	160	15
Suckers					775	43		
Sunfish					13,880	179		
White perch					232,588	12,091	300	20
Yellow perch					60,320	3,227		
Yellowtail					20,851	987	1,000	20
Crabs, soft					411,180	61,978		
Shrimp					139,215	4,675		
Total	98,606,635	429,326	4,985	614	10,493,594	458,684	4,300,310	99,310

Species	Gill nets							
	Drift		Stake		Runaround		Set	
	Pounds	*Value*	*Pounds*	*Value*	*Pounds*	*Value*	*Pounds*	*Value*
Alewives	36,000	$840	133,330	$1,820	92,700	$1,840	179,325	$2,799
Black bass							84	14
Bluefish	188,145	9,410	82,990	6,450	82,638	5,337	51,869	4,095
Bonito							5,000	75
Bowfin			200	5			304	3
Butterfish							2,500	51
Carp			9,350	105	1,900	30	4,596	201
Catfish and bullheads			3,400	87	3,225	89	18,657	685
Crappie			170	34	660	38		
Croaker	500	20	258,440	4,628	341,834	5,735	1,142,371	14,103
Drum, black					390	15	488	7
Drum, red, or redfish			5,650	149	38,874	972	5,637	178
Flounders			6,240	302	8,160	584	4,047	291
Garfish			200	1	200	1		
Gizzard shad							4,954	98
Hickory shad	15,100	1,206	84,315	3,655	1,025	55	79,571	4,503
King whiting or "kingfish"			400	10	17,150	990	528,020	23,079
Mullet	52,723	3,420	50,834	3,464	934,787	52,824	19,364	1,517
Pigfish	3,000	181	4,060	90	17,740	323	1,800	45
Pike			20	2	80	5	423	37
Pompano			10	1	41	3		
Seabass					1,500	120		
Shad	90,247	19,914	489,743	91,208			729,842	130,320

Fisheries of North Carolina, 1928—Continued

CATCH: BY GEAR—Continued

Species	Gill nets							
	Drift		Stake		Runaround		Set	
	Pounds	*Value*	*Pounds*	*Value*	*Pounds*	*Value*	*Pounds*	*Value*
eepshead, salt-water	--------	--------	--------	--------	1, 182	$73	100	$6
adefish	--------	--------	--------	--------	--------	--------	102	2
anish mackerel	94, 000	$7, 520	3, 321	$262	18, 343	1, 703	9, 930	1, 243
ot	58, 900	1, 795	88, 884	1, 555	334, 057	8, 741	422, 268	7, 022
ueteagues or "sea trout"	17, 480	1. 001	193, 846	12, 828	394, 628	24, 798	557, 931	28, 130
riped bass	2, 000	300	31, 524	4, 295	3, 765	489	80, 538	12, 616
urgeon	3, 385	350	519	79	--------	--------	281	51
ckers	--------	--------	--------	--------	300	4	1, 744	64
nfish	--------	--------	30	6	--------	--------	272	7
na	--------	--------	--------	--------	--------	--------	71	4
hite perch	--------	--------	17, 240	901	2, 050	209	25, 235	1, 732
llow perch	--------	--------	234	19	1, 135	81	2, 005	90
llowtail	--------	--------	173	4	235	16	30	1
Total	561, 480	45, 957	1, 465, 123	131, 960	2, 298, 599	105, 075	3, 879, 359	233, 069

Species	Lines						Pound nets	
	Hand		Trot with hooks		Trot with baits or snoods			
	Pounds	*Value*	*Pounds*	*Value*	*Pounds*	*Value*	*Pounds*	*Value*
ewives	--------	--------	--------	--------	--------	--------	5, 369, 100	$74, 811
ack bass	--------	--------	--------	--------	--------	--------	1, 000	200
uefish	79, 300	$6, 700	--------	--------	--------	--------	30, 732	2, 079
wfin	--------	--------	--------	--------	--------	--------	2, 060	21
tterfish	--------	--------	--------	--------	--------	--------	103, 751	2, 352
bio or crab eater	--------	--------	--------	--------	--------	--------	250	5
rp	--------	--------	--------	--------	--------	--------	35, 944	814
tfish and bullheads	--------	--------	2, 500	$250	--------	--------	177, 193	6, 591
ro	1, 500	120	--------	--------	--------	--------	--------	--------
d	--------	--------	--------	--------	--------	--------	146	5
appie	500	100	--------	--------	--------	--------	1, 350	150
evalle	--------	--------	--------	--------	--------	--------	300	6
oaker	--------	--------	--------	--------	--------	--------	1, 070, 991	18, 324
um, black	--------	--------	--------	--------	--------	--------	3, 936	82
um, red, or redfish	--------	--------	--------	--------	--------	--------	29, 780	913
ls	80	4	--------	--------	--------	--------	1, 030	57
ounders	1, 140	100	--------	--------	--------	--------	274, 324	15, 799
zard shad	--------	--------	--------	--------	--------	--------	58, 161	652
unts	1, 850	143	--------	--------	--------	--------	--------	--------
ke	--------	--------	--------	--------	--------	--------	380	19
rvestfish or "starfish"	--------	--------	--------	--------	--------	--------	761, 259	18, 853
ekory shad	--------	--------	--------	--------	--------	--------	163, 151	7, 139
ng whiting or "kingfish"	--------	--------	--------	--------	--------	--------	50, 356	2, 656
llet	--------	--------	--------	--------	--------	--------	1, 081	72
fish	--------	--------	--------	--------	--------	--------	7, 645	153
e	--------	--------	--------	--------	--------	--------	400	36
fish or sailors choice	--------	--------	--------	--------	--------	--------	100	1
mpano	--------	--------	--------	--------	--------	--------	2, 630	257
gies	125	10	--------	--------	--------	--------	--------	--------
bass	422, 325	27, 752	--------	--------	--------	--------	42	2
d	--------	--------	--------	--------	--------	--------	1, 664, 966	310. 043
epshead, salt-water	--------	--------	--------	--------	--------	--------	6, 180	387
pper, red	2, 350	174	--------	--------	--------	--------	--------	--------
defish	240	20	--------	--------	--------	--------	12, 364	273
nish mackerel	3, 300	300	--------	--------	--------	--------	38, 910	3, 057
t	--------	--------	--------	--------	--------	--------	165, 663	2, 910
eteagues or "sea trout"	--------	--------	--------	--------	--------	--------	2, 017, 974	98, 950
ped bass	--------	--------	--------	--------	--------	--------	156, 352	24, 116
rgeon	--------	--------	--------	--------	--------	--------	638	129
kers	--------	--------	--------	--------	--------	--------	7, 120	334
fish	--------	--------	--------	--------	--------	--------	3, 475	189
pletail	--------	--------	--------	--------	--------	--------	143	6
ite perch	--------	--------	--------	--------	--------	--------	129, 613	12, 230
low perch	--------	--------	--------	--------	--------	--------	15, 621	917
lowtail	--------	--------	--------	--------	--------	--------	2, 577	131
bs, hard	--------	--------	--------	--------	839, 425	$16, 550	--------	--------
imp	--------	--------	--------	--------	--------	--------	1, 478	53
opus	600	76	--------	--------	--------	--------	--------	--------
tles	--------	--------	--------	--------	--------	--------	47	3
Total	513, 310	35, 499	2. 500	250	839, 425	16, 550	12, 370, 213	605, 777

Fisheries of North Carolina, 1928—Continued

CATCH: BY GEAR—Continued

Species	Weirs		Wheels		Fyke nets		Dip nets, common	
	Pounds	*Value*	*Pounds*	*Value*	*Pounds*	*Value*	*Pounds*	*Valu*
Alewives			12,000	$415	33,700	$577	75,000	$1,20
Black bass					3,870	600		
Bowfin	1,100	$55			5,175	164		
Carp	500	25			170,385	11,324		
Catfish and bullheads					78,200	3,187		
Crappie	100	8			190	25		
Croaker					50	1		
Eels					2,625	76		
Flounders					8,500	662		
Gizzard shad					26,300	528		
Hickory shad					3,200	159		
Mullet					560	14		
Pike					8,600	812		
Shad							1,470	40
Striped bass					5,870	986		
Suckers					2,700	102		
Sunfish					4,570	144		
White perch	2,200	165			47,310	2,837		
Yellow perch					95,745	7,759		
Crabs, hard							200	
Crabs, soft							74,775	12,25
Total	3,900	253	12,000	415	497,550	29,957	151,445	13,86

Species	Bow nets		Drag nets		Push nets		Otter trawls			
							Fish		Shrimp	
	Pounds	*Value*	*Pounds*	*Value*	*Pounds*	*Value*	*Pounds*	*Value*	*Pounds*	*Valu*
Alewives	5,200	$225								
Cod							100	$3		
Croaker							30,000	560	10,000	$30
Drum, black							51	1		
Drum, red, or red fish							20	1		
Flounders							25,000	1,340	48,000	1,44
King whiting or "kingfish"									10,000	30
Pigfish									1,000	3
Shad	860	175								
Sheepshead, salt-water									1,000	3
Spot									10,000	30
Squeteagues or "sea trout"							2,000	115		
Striped bass	200	50								
Whiting							438	12		
Crabs, soft			25,802	$3,991						
Shrimp			85	5	11,875	$475	46	4	692,650	25,23
Total	6,260	450	25,887	3,996	11,875	475	57,655	2,036	772,650	27,63

Species	Box traps		Turtle traps		Eel pots		Spears	
	Pounds	*Value*	*Pounds*	*Value*	*Pounds*	*Value*	*Pounds*	*Valu*
Carp	1,000	$50						
Catfish and bullheads	1,000	50						
Eels					71,730	$5,589		
Flounders							38,562	$2,97
Striped bass	625	125						
Suckers	3,000	300						
White perch	1,820	182						
Yellow perch	20	2						
Turtles			300	$24				
Total	7,465	709	300	24	71,730	5,589	38,562	2,97

Species	Dredges				Tongs		Rakes		By hand	
	Oyster		Scallop							
	Pounds	*Value*	*Pounds*	*Value*	*Pounds*	*Value*	*Pounds*	*Value*	*Pounds*	*Valu*
Crabs, hard			668	$100					6,624	$16
Crabs, soft			117,187	18,140						
Clams, hard, public					25,200	$5,425	299,000	$55,735	32	
Oysters, market, public	2,025,527	$117,720			698,565	40,185			171,115	8,78
Oysters, market, private					4,480	800				
Oysters, seed, public	140,000	5,000			23,800	850				
Scallops, bay			534,474	46,165			859,650	79,680		
Terrapin									28	
Total	2,165,527	122,720	652,329	64,405	752,045	47,260	1,158,650	135,415	177,799	8,96

Fisheries of North Carolina, 1928—Continued

OPERATING UNITS: BY COUNTIES

Items	Beaufort	Bertie	Brunswick	Camden	Carteret	Chowan	Craven	Cumberland
Fishermen:	*Number*	*Number*	*Number*	*Number*	*Number*	*Number*	*Number*	*Number*
On vessels	69	--------	161	--------	626	--------	12	--------
On boats and shore—								
Regular	92	--------	222	--------	932	6	51	--------
Casual	156	35	51	6	763	122	42	40
Total	317	35	434	6	2,321	128	105	40
Vessels:								
Motor—								
5 to 10 tons	--------	--------	3	--------	34	--------	2	--------
11 to 20 tons	--------	--------	--------	--------	5	--------	--------	--------
21 to 30 tons	--------	--------	--------	--------	4	--------	--------	--------
31 to 40 tons	--------	--------	3	--------	3	--------	--------	--------
41 to 50 tons	--------	--------	3	--------	4	--------	--------	--------
51 to 60 tons	--------	--------	1	--------	4	--------	--------	--------
61 to 70 tons	--------	--------	1	--------	2	--------	--------	--------
71 to 80 tons	--------	--------	--------	--------	2	--------	--------	--------
Total	--------	--------	11	--------	58	--------	2	--------
Net tonnage	--------	--------	397	--------	1,212	--------	12	--------
Sail—								
5 to 10 tons	20	--------	--------	--------	12	--------	--------	--------
11 to 20 tons	2	--------	--------	--------	8	--------	--------	--------
21 to 30 tons	1	--------	--------	--------	--------	--------	--------	--------
Total	23	--------	--------	--------	20	--------	--------	--------
Net tonnage	194	--------	--------	--------	201	--------	--------	--------
Total vessels	23	--------	11	--------	78	--------	2	--------
Total net tonnage	194	--------	397	--------	1,413	--------	12	--------
Boats:								
Motor	67	8	28	2	454	50	17	--------
Other	102	6	50	3	652	20	45	25
Apparatus:								
Purse seines—								
Menhaden	--------	--------	8	--------	29	--------	--------	--------
Yards	--------	--------	2,200	--------	10,320	--------	--------	--------
Haul seines—								
Common	17	1	14	--------	292	--------	9	--------
Yards	5,995	1,600	3,075	--------	23,401	--------	3,090	--------
Long	--------	--------	--------	--------	25	--------	2	--------
Yards	--------	--------	--------	--------	28,400	--------	2,000	--------
Gill nets—								
Drift	--------	--------	5	--------	27	--------	--------	23
Square yards	--------	--------	4,375	--------	56,900	--------	--------	1,035
Stake	864	--------	--------	--------	1,990	--------	428	--------
Square yards	80,944	--------	--------	--------	152,585	--------	54,839	--------
Runaround	16	--------	47	--------	136	--------	6	--------
Square yards	9,422	--------	10,885	--------	98,655	--------	8,125	--------
Set	--------	--------	--------	40	996	160	--------	--------
Square yards	--------	--------	--------	16,000	197,696	92,000	--------	--------
Lines—								
Hand	--------	--------	36	--------	63	--------	--------	--------
Hooks	--------	--------	72	--------	117	--------	--------	--------
Trot with baits or snoods	55	--------	--------	--------	--------	--------	--------	--------
Baits or snoods	34,600	--------	--------	--------	--------	--------	--------	--------
Pound nets	184	64	--------	--------	172	539	8	--------
Fyke nets	--------	--------	--------	8	--------	13	--------	--------
Dip nets	--------	--------	1	--------	247	--------	--------	--------
Drag nets	--------	--------	1	--------	80	--------	--------	--------
Otter trawls, shrimp	--------	--------	22	--------	20	--------	--------	--------
Yards at mouth	--------	--------	458	--------	257	--------	--------	--------
Box traps	--------	--------	--------	--------	--------	--------	20	--------
Eel pots	174	--------	25	--------	60	10	20	--------
Spears	--------	--------	--------	--------	10	--------	--------	--------
Dredges—								
Oyster	64	--------	--------	--------	38	--------	--------	--------
Yards at mouth	190	--------	--------	--------	127	--------	--------	--------
Scallop	--------	--------	--------	--------	773	--------	--------	--------
Yards at mouth	--------	--------	--------	--------	742	--------	--------	--------
Tongs	3	--------	--------	--------	207	--------	--------	--------
Rakes	--------	--------	73	--------	1,104	--------	--------	--------

Fisheries of North Carolina, 1928—Continued

OPERATING UNITS: BY COUNTIES—Continued

Items	Curri-tuck	Dare	Gates	Hert-ford	Hyde	Lenoir	Martin	New Han-over
Fishermen:	*Number*	*Number*	*Number*	*Number*	*Number*	*Number*	*Number*	*Numbe*
On vessels		3			7			
On boats and shore—								
Regular	119	522			108			26
Casual	187	63	12	8	44	43	85	9
Total	306	588	12	8	159	43	85	36
Vessels: Sail, 5 to 10 tons		1			3			
Net tonnage		7			23			
Total vessels		1			3			
Total net tonnage		7			23			
Boats:								
Motor	110	245	2	2	63		2	1
Other	84	135	7	3	39	24	69	13
Apparatus:								
Purse seines—								
Other than menhaden		3						
Yards		600						
Haul seines—								
Common	111	37			3	3	3	3
Yards	24, 579	15, 200			800	270	900	4, 63
Gill nets—								
Drift		2	9	3			18	7
Square yards		2, 300	750	300			2, 160	91, 58
Stake	27	3, 784			145	10	4	
Square yards	2, 450	214, 395			18, 100	690	1, 200	
Runaround		29			11			10
Square yards		31, 400			4, 980			22, 76
Set	95	851			220		1	
Square yards	38, 250	460, 545			13, 325		100	1, 35
Lines—								
Hand						24		
Hooks						24		2
Trot with hooks						24		
Hooks						600		
Trot with baits or snoods	3	44			6			
Baits or snoods	4, 200	68, 000			6, 000			
Pound nets	9	857		10	86			
Weirs							16	
Wheels							5	
Fyke nets	472		24	9			77	
Bow nets						3	16	
Push nets								1
Turtle traps		4						
Eel pots	755	250			18			
Spears								3
Dredges—								
Oyster		2			39			
Yards at mouth		7			164			
Tongs		11			71			
Rakes					35			8

Fisheries of North Carolina, 1928—Continued

OPERATING UNITS: BY COUNTIES—Continued

Items	Onslow	Pamlico	Pasquotank	Pender	Perquimans	Pitt	Tyrrell	Washington	Wayne
Fishermen:	*Number*	*Number*	*Number*	*Number*	*Number*	*Number*	*Number*	*Number*	*Number*
On vessels	--------	58	8	--------	--------	--------	--------	--------	--------
On boats and shore—									
Regular	120	98	39	25	23	--------	14	18	--------
Casual	175	114	22	212	5	6	87	77	10
Total	295	270	69	237	28	6	101	95	10
Vessels:									
Motor, 5 to 10 tons	--------	3	1	--------	--------	--------	--------	--------	--------
Total	--------	3	1	--------	--------	--------	--------	--------	--------
Net tonnage	--------	17	10	--------	--------	--------	--------	--------	--------
Sail—									
5 to 10 tons	--------	11	1	--------	--------	--------	--------	--------	--------
11 to 20 tons	--------	3	1	--------	--------	--------	--------	--------	--------
Total	--------	14	2	--------	--------	--------	--------	--------	--------
Net tonnage	--------	119	24	--------	--------	--------	--------	--------	--------
Total vessels	--------	17	3	--------	--------	--------	--------	--------	--------
Total net tonnage	--------	136	34	--------	--------	--------	--------	--------	--------
Boats:									
Motor	46	90	15	1	16	--------	38	15	3
Other	176	111	32	85	8	1	54	30	--------
Apparatus:									
Haul seines—									
Common	24	7	8	24	--------	1	--------	2	--------
Yards	2,815	3,000	600	3,170	--------	200	--------	1,600	--------
Long	--------	2	--------	--------	--------	--------	--------	--------	--------
Yards	--------	2,100	--------	--------	--------	--------	--------	--------	--------
Gill nets—									
Drift	23	--------	--------	25	--------	--------	--------	10	--------
Square yards	6,280	--------	--------	19,500	--------	--------	--------	3,250	--------
Stake	--------	998	--------	1	30	--------	570	--------	--------
Square yards	--------	84,320	--------	185	1,980	--------	34,500	--------	--------
Runaround	288	1	--------	25	--------	--------	--------	--------	--------
Square yards	94,172	950	--------	7,696	--------	--------	--------	--------	--------
Set	12	66	469	1	391	--------	190	172	--------
Square yards	20,555	15,930	167,145	65	226,800	--------	141,000	101,995	--------
Lines—									
Hand	60	--------	--------	--------	--------	--------	--------	--------	--------
Hooks	120	--------	--------	--------	--------	--------	--------	--------	--------
Trot with baits or snoods	--------	39	--------	--------	--------	--------	--------	--------	--------
Baits or snoods	--------	19,500	--------	--------	--------	--------	--------	--------	--------
Pound nets	--------	224	31	--------	55	--------	101	66	--------
Fyke nets	--------	--------	72	--------	--------	--------	48	--------	--------
Dip nets	35	--------	--------	--------	--------	--------	--------	4	--------
Otter trawls, fish	--------	--------	1	--------	--------	--------	--------	--------	--------
Yards at mouth	--------	--------	40	--------	--------	--------	--------	--------	--------
Box traps	--------	--------	--------	--------	--------	--------	--------	--------	30
Eel pots	55	92	--------	--------	35	--------	50	--------	--------
Spears	40	--------	--------	--------	--------	--------	--------	--------	--------
Dredges—									
Oyster	--------	54	3	--------	--------	--------	--------	--------	--------
Yards at mouth	--------	127	11	--------	--------	--------	--------	--------	--------
Tongs	67	120	1	10	--------	--------	2	--------	--------
Rakes	28	--------	--------	110	--------	--------	--------	--------	--------

Fisheries of North Carolina, 1928—Continued

CATCH: BY COUNTIES

Species	Beaufort		Bertie		Brunswick		Camden		Carteret	
	Pounds	*Value*	*Pounds*	*Value*	*Pounds*	*Value*	*Pounds*	*Value*	*Pounds*	*Valu*
Alewives	499, 313	$7, 956	494, 890	$7, 375	-----	-----	700	$13	9, 550	$37
Bluefish	-----	-----	-----	-----	600	$60	-----	-----	506, 336	28, 75
Bonito	-----	-----	-----	-----	-----	-----	-----	-----	5, 000	7
Bowfin	-----	-----	-----	-----	-----	-----	100	1	-----	-----
Butterfish	-----	-----	-----	-----	-----	-----	-----	-----	24, 694	64
Carp	71,914	878	-----	-----	-----	-----	300	11	-----	-----
Catfish and bullheads	52, 174	758	-----	-----	750	45	600	22	-----	-----
Cero	-----	-----	-----	-----	-----	-----	-----	-----	1, 500	12
Crevalle	-----	-----	-----	-----	-----	-----	-----	-----	300	
Croaker	387, 385	5, 918	-----	-----	10, 900	370	100	2	3, 637, 360	49, 79
Drum, black	-----	-----	-----	-----	90	7	-----	-----	-----	-----
Drum, red, or redfish	5, 400	70	-----	-----	1, 000	80	-----	-----	132, 773	2, 48
Eels	12, 675	565	-----	-----	1, 500	180	25	1	5, 000	50
Flounders	22, 370	1, 080	-----	-----	53, 000	1, 840	50	3	30, 170	1, 42
Gizzard shad	-----	-----	-----	-----	-----	-----	60	1	-----	-----
Grunts	-----	-----	-----	-----	-----	-----	-----	-----	1, 850	14
Harvest fish or "star-fish"	9, 200	230	-----	-----	-----	-----	-----	-----	168, 516	5, 83
Hickory shad	29, 094	1, 706	275	11	-----	-----	200	10	74, 325	3, 31
King whiting or "king-fish"	-----	-----	-----	-----	10, 250	320	-----	-----	488, 035	21, 72
Menhaden	-----	-----	-----	-----	30, 717, 800	153, 624	-----	-----	68, 584, 555	277, 37
Mullet	12, 365	1, 193	-----	-----	233, 500	12, 900	14	1	870, 148	48, 83
Pigfish	-----	-----	-----	-----	1, 250	50	-----	-----	210, 760	3, 18
Pike	-----	-----	-----	-----	-----	-----	14	1	-----	-----
Pompano	-----	-----	-----	-----	-----	-----	-----	-----	3, 217	34
Porgies	-----	-----	-----	-----	-----	-----	-----	-----	125	1
Sea bass	-----	-----	-----	-----	15, 425	1, 542	-----	-----	274, 400	16, 80
Shad	101, 017	17, 945	63, 553	7, 123	3, 650	800	52, 506	9, 637	55, 810	14, 09
Sheepshead, salt-water	-----	-----	-----	-----	1, 645	75	-----	-----	10, 650	47
Snapper, red	-----	-----	-----	-----	-----	-----	-----	-----	2, 350	17
Spadefish	-----	-----	-----	-----	-----	-----	-----	-----	1, 790	6
Spanish mackerel	-----	-----	-----	-----	-----	-----	-----	-----	116, 134	9, 59
Spot	20, 685	417	-----	-----	11, 250	400	-----	-----	1, 753, 425	32, 27
Squeteagues or "sea trout"	109, 778	3, 785	-----	-----	2, 650	290	-----	-----	1, 763, 253	102, 25
Striped bass	31, 004	3, 538	9, 715	1, 460	1, 335	200	200	28	12, 930	1, 78
Sturgeon	325	40	-----	-----	-----	-----	-----	-----	460	10
Suckers	-----	-----	-----	-----	-----	-----	400	12	-----	-----
Sunfish	610	26	-----	-----	-----	-----	40	1	-----	-----
White perch	10, 142	982	250	25	-----	-----	1, 800	113	200	1
Yellow perch	9, 284	606	-----	-----	-----	-----	700	33	-----	-----
Yellowtail	-----	-----	-----	-----	200	15	-----	-----	1, 000	2
Crabs, hard	214, 660	4, 055	-----	-----	200	5	-----	-----	668	10
Crabs, soft	-----	-----	-----	-----	-----	-----	-----	-----	628. 276	96, 26
Shrimp	-----	-----	-----	-----	587, 735	19, 630	-----	-----	145, 000	6, 49
Clams, hard, public	-----	-----	-----	-----	58, 920	12, 900	-----	-----	148, 832	25, 35
Oysters, market, public	526, 183	42, 175	-----	-----	1, 400	150	-----	-----	1, 397, 963	54, 08
Oysters, market, private	-----	-----	-----	-----	-----	-----	-----	-----	4, 480	80
Scallops, bay	-----	-----	-----	-----	-----	-----	-----	-----	1, 394, 124	125, 84
Octopus	-----	-----	-----	-----	-----	-----	-----	-----	600	7
Total	2, 125, 578	93, 923	568, 683	15, 994	31, 715, 050	205, 483	57, 809	9, 890	82, 466, 559	931, 62

Fisheries of North Carolina, 1928—Continued

CATCH: BY COUNTIES—Continued

Species	Chowan		Craven		Cumberland		Currituck		Dare	
	Pounds	*Value*	*Pounds*	*Value*	*Pounds*	*Value*	*Pounds*	*Value*	*Pounds*	*Value*
lewives	3,403,200	$42,630	19,800	$650			17,733	$474	296,097	$7,369
lack bass							75,567	10,984	13,760	2,130
luefish			400	16			10,000	1,200	187,623	12,410
onito							600	30	2,350	55
owfin							10,770	227	3,520	35
utterfish			1,820	57			1,500	60	54,880	1,096
abio or crab eater									250	5
arp	5,450	222	8,300	166			574,190	35,747	21,106	782
atfish and bullheads	106,040	4,170	8,000	158			163,578	5,422	59,644	1,752
od									196	7
rappie	420	60	1,380	74			454	5	12	1
revalle							480	24		
roaker			542,125	7,051			32,875	1,295	897,366	16,254
rum, black			100	2					6,876	178
rum, red, or redfish			1,500	23			12,000	600	30,523	779
els	2,000	200	400	32			34,244	2,503	2,394	188
lounders			6,050	282			16,527	1,041	249,015	14,803
arfish			1,000	5						
izzard shad	50,000	500					41,020	694	3,961	64
ake									380	19
arvest fish or "star-fish"			29,860	898			8,500	300	337,853	6,696
ickory shad	44,470	2,875	20,220	1,107			1,367	70	72,702	3,204
ing whiting or "king-fish"							85,500	4,275	113,615	4,174
ullet			34,850	2,825			15,100	755	28,672	1,650
igfish			200	4			12,000	600	1,097	38
ike	100	10	630	32			13,020	1,301	25	2
infish or sailors choice									100	1
ollock									150	5
ompano							430	60	508	60
ea bass									1,542	122
had	105,432	21,500	44,124	8,698	7,300	$1,720	44,690	8,194	2,007,901	365,368
heepshead, salt-water			900	60					6,097	329
padefish									2,797	63
panish mackerel			835	76			4,000	600	31,931	2,204
pot			29,850	572			17,400	870	294,732	5,840
queteagues or "sea trout"			140,625	6,705			258,412	18,521	2,003,275	126,213
triped bass	40,720	8,075	10,776	1,317			42,457	6,796	191,227	26,407
turgeon									4,033	774
uckers	5,100	260	300	4			1,240	27	555	14
unfish	770	110					14,780	232	2,935	64
ripletail									143	6
una									71	4
hite perch	73,700	6,403	4,740	489			192,384	10,042	71,762	3,437
ellow perch	7,000	400	1,680	83			114,920	7,649	8,134	359
ellowtail							13,351	614	10,285	509
rabs, hard							10,000	150	410,000	8,200
hrimp									1,478	53
ysters, market, public									18,550	1,725
errapin									28	7
urtles									347	27
Total	3,844,402	87,415	910,465	31,386	7,300	1,720	1,841,089	121,362	7,452,498	615,482

Fisheries of North Carolina, 1928—Continued

CATCH: BY COUNTIES—Continued

Species	Gates		Hertford		Hyde		Lenoir	
	Pounds	*Value*	*Pounds*	*Value*	*Pounds*	*Value*	*Pounds*	*Valu*
Alewives			50,000	$562	30,400	$605	100	$
Bluefish					22,560	1,840		
Bowfin	500	$12	175	4				
Butterfish					21,850	490		
Carp	125	3	160	4	400	8		
Catfish and bullheads	600	12	400	8			2,500	25
Crappie							705	14
Croaker					533,900	8,465		
Drum, black					1,500	30		
Drum, red, or redfish					42,850	1,270		
Eels							80	
Flounders					1,950	90		
Harvestfish or "starfish"					172,700	3,655		
Hickory shad			50	1	4,660	180	520	5
King whiting or "kingfish"					13,525	645		
Mullet	400	10	360	9	23,182	1,820		
Pigfish					10,750	215		
Pompano					2,280	228		
Shad	1,425	205	566	75	19,484	3,910	4,284	1,14
Sheepshead, salt-water					1,080	108		
Spadefish					8,000	165		
Spanish mackerel					12,050	1.220		
Spot					43,400	877		
Squeteagues or "sea trout"					314,195	12,245		
Striped bass			50	5	600	60	540	13
Sturgeon							232	1
Suckers							200	3
Sunfish							30	
White perch	300	21	105	7			8	
Yellow perch	200	13	45	3			4	
Crabs, hard					43,525	675		
Clams, hard, public					8,000	1,500		
Oysters, market, public					150,570	10,825		
Oysters, seed, public					163,800	5,850		
Total	3,550	276	51,911	678	1,647,211	56,976	9,203	1,78

Species	Martin		New Hanover		Onslow		Pamlico	
	Pounds	*Value*	*Pounds*	*Value*	*Pounds*	*Value*	*Pounds*	*Value*
Alewives	382,700	$8,090			84,500	$1,690	55,835	$80
Bluefish			520	$37	14,700	605	5,600	22
Bowfin	1,550	72						
Butterfish					400	10	6,775	21
Carp	6,000	200					1,450	1
Catfish and bullheads	3,260	106					130	
Crappie	100	8						
Croaker			4,475	179	10,333	273	678,085	10,91
Drum, red, or redfish			4,942	284	1,400	101	2,460	9
Eels					5,000	600	5,275	39
Flounders			17,730	1,773	7,187	575	19,225	88
Harvestfish or "starfish"							55,165	1,92
Hickory shad	300	3	15,100	1,206			93,785	3,21
King whiting or "kingfish"			80	5	68,240	2,850	250	1
Mullet			376,017	25,434	618,129	31,735	6,060	50
Pigfish			8,576	538	1,900	46	985	2
Pike							20	
Pompano			700	100			510	4
Sea bass			4,500	450	128,000	8,960		
Shad	1,680	288	52,738	11,726	1,470	402	96,958	19,70
Sheepshead, salt-water					920	55	690	4
Spadefish							1,135	3
Spanish mackerel			5,900	885	1,500	125	1,655	14
Spot			125,003	6,817	317,403	7,705	90,887	1,38
Squeteagues or "sea trout"			16,142	2,326	48,191	5,445	458,770	18,25
Striped bass	2,400	310	2,040	305	1,040	130	11,178	1,70
Sturgeon			3,385	350				
White perch	16,500	948					630	8
Yellow perch	100	8					40	
Crabs, hard			6,624	166			161,240	3,47
Crabs, soft					668	100		
Shrimp			73,625	2,945	4,300	300		
Clams, hard, public			53,280	11,085	25,600	4,275		
Oysters, market, public			62,300	6,125	60,102	5,075	647,269	42,99
Total	414,590	10,033	833,677	72,736	1,400,983	71,057	2,402,062	107,09

Fisheries of North Carolina, 1928—Continued

CATCH: BY COUNTIES—Continued

Species	Pasquotank		Pender		Perquimans	
	Pounds	*Value*	*Pounds*	*Value*	*Pounds*	*Value*
Alewives	82, 360	$2, 246			72, 758	$1, 260
Black bass	109	19				
Bluefish	15	1	5, 625	$675		
Bowfin	1, 404	24			200	2
Butterfish	47	2				
Carp	5, 580	217			1, 460	67
Catfish and bullheads	36, 207	1, 335			9, 370	297
Cod	100	3				
Crappie	333	40				
Croaker	37, 060	687	3, 200	160	50	1
Drum, black	121	3				
Drum, red, or redfish	65	3	2, 522	155		
Eels	2, 600	75			2, 240	179
Flounders	28, 845	1, 560	715	50	895	53
Gizzard shad	8, 894	175			4, 700	95
Hickory shad	14, 336	707			15, 700	870
King whiting or "kingfish"	741	46				
Mullet	631	46	281, 462	15, 880	163	13
Pigfish			2, 250	135		
Pike	2, 659	215			125	10
Pompano			750	85		
Shad	165, 400	29, 321	18, 000	4, 100	160, 268	28, 260
Sheepshead, salt-water			200	25		
Spadefish	34	1				
Spanish mackerel			1, 875	225		
Spot			250, 314	9, 025		
Squeteagues or "sea trout"	4, 883	279	7, 265	985	20	2
Striped bass	40, 679	5, 366			21, 800	3, 500
Suckers	3, 344	126			900	31
Sunfish	2, 132	58			30	1
White perch	49, 485	4, 428			3, 025	297
Whiting	438	12				
Yellow perch	8, 905	360			468	27
Yellowtail	30	1				
Shrimp	46	4	33, 165	1, 025		
Clams, hard, public			29, 600	6, 050		
Oysters, market, public	16, 100	2, 300	11, 970	935		
Total	513, 583	49, 660	648, 913	39, 510	294, 172	34, 965

Species	Pitt		Tyrrell		Washington		Wayne	
	Pounds	*Value*	*Pounds*	*Value*	*Pounds*	*Value*	*Pounds*	*Value*
Alewives	10, 000	$455	776, 000	$8, 580	1, 522, 095	$19, 597		
Black bass			1, 000	200				
Bowfin			1, 900	19				
Carp			12, 500	620	44, 885	1, 485	1, 000	$50
Catfish and bullheads			28, 000	1, 120	10, 980	560	1, 000	50
Crappie			1, 000	100				
Croaker			50	1				
Eels			3, 300	336				
Flounders	285	20	1, 200	70				
Gizzard shad			1, 000	10				
Hickory shad			2, 560	203	7, 520	535		
Mullet			500	75				
Pike			2, 000	180				
Shad	4, 725	900	18, 280	3, 810	87, 154	14, 081		
Striped bass	500	75	13, 800	2, 750	71, 790	7, 863	625	125
Suckers			600	43			3, 000	300
Sunfish			900	27				
White perch	330	50	9, 635	1, 310	23, 360	1, 722		
Yellow perch			23, 600	2, 550				
Oysters, market, public			2, 800	300				
Total	15, 840	1, 500	900, 625	22, 304	1, 767, 784	45, 843	5, 625	525

INDUSTRIES RELATED TO THE FISHERIES

Transporting trade.—In 1928 there were 45 persons in North Carolina engaged primarily in transporting the catch of fish. In this trade 28 motor vessels having a total capacity of 295 net tons were operated. The size of vessel in most popular use ranged from 5 to 10 net tons.

Wholesale trade.—There were 85 wholesale establishments in North Carolina engaged primarily in handling fresh and frozen products. This is 37 per cent of the total number of such establishments in the South Atlantic section. They employed 440 persons who received $138,799 in salaries and wages. Of the total number of establishments, Carteret County accounted for 36 and Beaufort County, 9.

Prepared and by products trade.—In 1928 there were 21 establishments in North Carolina engaged primarily in the manufacture of prepared fishery products or by-products. This is 35 per cent of the total number in the South Atlantic section. They employed 260 persons who received $141,580 in salaries and wages. The products manufactured consisting principally of menhaden products and canned oysters, were valued at $1,160,482. Detailed statistics of most of the items manufactured may be obtained from "Fishery Industries of the United States, 1928," Bureau of Fisheries Document No. 1067.

In addition to the above, 2,498,755 pounds of salted and smoked fish, valued at $69,993 were prepared by the fishermen.

Industries related to the fisheries of North Carolina, 1928

TRANSPORTING

Items	Number	Items	Number
Men on transporting vessels	45	Transporting vessels (motor)—Contd. 21 to 30 tons	 2
Transporting vessels (motor): 5 to 10 tons 11 to 20 tons	 18 8	Total vessels Total net tonnage	28 295

WHOLESALE FISHERY TRADE

Items	Beaufort	Brunswick	Carteret	Currituck and Pasquotank	Dare	New Hanover and Pender	Onslow	Pamlico and Craven	Total
Establishments	9	6	36	7	7	7	5	8	85
Persons engaged:									
Proprietors	12	8	51	8	10	8	6	12	115
Salaried employees	4	8	33	20	2	2	-------	13	82
Wage earners	67	40	73	8	21	11	5	18	243
Paid to salaried employees	$1,980	$3,100	$30,980	$14,650	$1,000	$1,664	-------	$7,840	$61,214
Paid to wage earners	22,030	9,100	26,558	5,300	4,175	4,972	$1,050	4,400	77,585
Total salaries and wages	24,010	12,200	57,538	19,950	5,175	6,636	1,050	12,240	138,799

Industries related to the fisheries of North Carolina, 1928—Continued

PREPARED FISHERY PRODUCTS AND BY-PRODUCTS

Items	Number	Products [1]	Quantity	Value
stablishments	21	Salted:		
ersons engaged:		Alewives ... pounds	1,058,465	$18,711
Proprietors	39	Mullet ... do	565,000	45,404
Salaried employees	41	Spot ... do	146,000	10,845
Wage earners	180	Canned oysters ... standard cases [2]	29,161	145,102
		Menhaden:		
aid to salaried employees	$49,467	Dry scrap ... tons	4,492	240,355
aid to wage earners	92,113	Acidulated scrap ... do	7,333	186,476
		Fish meal ... do	3,854	240,425
Total salaries and wages	141,580	Oil ... gallons	633,806	248,897
		Miscellaneous products [3]		24,267
		Total		1,160,482

PRODUCTS PREPARED BY THE FISHERMEN

Items	Pounds	Value
alted:		
Alewives	2,296,605	$53,078
Mullet	196,150	16,520
Spot	3,000	245
Total	2,495,755	69,843
moked alewives	3,000	150
Grand total	2,498,755	69,993

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[1] Includes salted products prepared by 14 firms whose activities were principally in the wholesale fish-ry trade.
[2] A standard case contains 4 dozen 5-ounce cans of oysters.
[3] Includes canned alewife roe, oyster-shell products, and porpoise oil.

SOUTH CAROLINA

The fisheries of South Carolina in 1928 employed 13 per cent of the otal number of fishermen and accounted for 3 per cent of the total atch of the South Atlantic section. The fisheries and industries elated to the fisheries employed 2,540 persons, which is 16 per cent reater than the number employed during 1927. Of the total, 1,505 vere fishermen, 143 were employed on transporting vessels, 236 in he wholesale trade, and 656 in the prepared-products and by-products ndustries.

The total catch amounted to 7,432,414 pounds, valued at $316,814. This is a decrease of 11 per cent in the catch and 10 per cent in the alue of the catch as compared with the catch and its value for 1927. Of the total value of the catch, that for oysters accounted for 51 per cent; shad, 21 per cent; and shrimp and mullet, each, 6 per cent. Of the total production, that for oysters accounted for 78 per cent; hrimp 6 per cent; and shad and sea bass, each, 4 per cent.

OPERATING UNITS BY GEAR

The catch of fishery products in South Carolina during 1928 was aken by 1,505 fishermen who used 4 motor vessels, 1,004 motor and ther small boats, and 10 major types of gear. The vessels had a ombined capacity of 53 net tons. The fisheries accounting for the reatest number of persons were the grab fishery employing 504 ishermen, the tong fishery employing 337 fishermen, and the set ill-net fishery employing 272 fishermen.

CATCH BY GEAR

Five types of gear accounted for 91 per cent of the fish taken i the fisheries of South Carolina during 1928. Listed in order of thei importance they were grabs, which accounted for 47 per cent of th catch; tongs, 28 per cent; otter trawls used for shrimp, 6 per cent and haul seines and lines, each, 5 per cent. The catch by grabs an tongs was almost exclusively oysters; that by otter trawls exclusivel shrimp; that by haul seines principally mullet and spot; and that b lines mainly sea bass.

OPERATING UNITS BY COUNTIES

Beaufort County was foremost in the number of persons fishing accounting for 37 per cent of the total. Charleston County followe with 23 per cent. Only four fishing vessels were operated in th State, one of which was in Beaufort County and three in Charlesto County. Beaufort County led in the number of motor and othe small fishing boats accounting for 54 per cent of the total. Charleston County followed with 22 per cent.

CATCH BY COUNTIES

Fishing was prosecuted in the marine waters of five counties i South Carolina during 1928. Ranked according to value the fisherie of Beaufort County were most important accounting for 53 per cen of the catch and 39 per cent of the total value of the catch. Charleston County was next in importance accounting for 36 per cent of th catch and 32 per cent of the value of the catch. Other countie listed in order of their importance with respect to the value of th catch were Georgetown, Horry, and Colleton.

Fisheries of South Carolina, 1928

OPERATING UNITS: BY GEAR

Items	Haul seines, common	Gill nets				Lines		Cast nets
		Drift	Stake	Runaround	Set	Hand	Trot with baits or snoods	
Fishermen:	*Number*	*Number*	*Number*	*Number*	*Number*	*Number*	*Number*	*Numbe*
On vessels	-------	-------	-------	-------	-------	17	-------	-------
On boats and shore—								
Regular	2	-------	-------	-------	20	45	8	-------
Casual	254	205	25	30	252	5	-------	
Total	256	205	25	30	272	67	8	
Vessels:								
Motor—								
5 to 10 tons	-------	-------	-------	-------	-------	2	-------	-------
Total vessels	-------	-------	-------	-------	-------	2	-------	-------
Total net tonnage	-------	-------	-------	-------	-------	17	-------	-------
Boats:								
Motor	1	17	3	2	5	5	-------	-------
Other	50	100	12	13	158	10	4	
Apparatus:								
Number	39	118	39	16	332	84	4	
Length, yards	4,325	-------	-------	-------	-------	-------	-------	-------
Square yards	-------	96,367	11,215	4,765	107,315	-------	-------	-------
Hooks, baits or snoods	-------	-------	-------	-------	-------	417	300	-------

Fisheries of South Carolina, 1928—Continued

OPERATING UNITS: BY GEAR

Items	Otter trawls, shrimp	Spears	Dredges, oyster	Tongs	Rakes	Grabs	By hand	Total, exclu-ive of duplication
shermen:	*Number*	*Number*	*Number*	*Number*	*Number*	*Number*	*Number*	*Number*
On vessels			9					26
On boats and shore—								
Regular	10			328		415	50	552
Casual	8	34		9	60	89	96	927
Total	18	34	9	337	60	504	146	1, 505
essels:								
Motor—								
5 to 10 tons								2
11 to 20 tons			2					2
Total vessels			2					4
Total net tonnage			36					53
oats:								
Motor	9			3		10	1	43
Other		16		334	20	512	98	961
pparatus:								
Number	9	34	4	301	60	397		
Yards at mouth	453		16					

CATCH: BY GEAR

Species	Haul seines, common		Gill nets					
			Drift		Stake		Anchor	
	Pounds	*Value*	*Pounds*	*Value*	*Pounds*	*Value*	*Pounds*	*Value*
lewives			2, 000	$100				
roakers	2, 400	$120						
rum, red, or redfish	2, 060	180						
lounders	3, 200	320						
ickory shad			5, 594	811	7, 400	$1, 000	50	$5
ing whiting, or "kingfish"	23, 500	1, 200						
Iullet	259, 340	15, 725						
ιad			102, 722	22, 092	39, 307	9, 156	52, 630	9, 510
oot	82, 600	2, 575						
queteagues, or "sea trout"	11, 075	870						
urgeon			20, 360	2, 200			3, 000	1, 000
errapin	5, 099	2, 234						
Total	389, 274	23, 224	130, 676	25, 203	46, 707	10, 156	55, 680	10, 515

Species	Gill nets				Lines			
	Runaround		Set		Hand		Trot with bait or snoods	
	Pounds	*Value*	*Pounds*	*Value*	*Pounds*	*Value*	*Pounds*	*Value*
luefish					3, 500	$280		
arp	1, 800	$54						
atfish and bullheads	2, 100	63			300	24		
roakers	400	20			9, 300	490		
rum, black	200	6			3, 350	100		
rum, red, or redfish	310	16			2, 500	195		
lounders	500	20						
runts					5, 625	450		
ickory shad			1, 304	$160				
ing whiting, or "kingfish"					38, 000	4, 090		
Iullet	27, 640	1, 550						
ea bass					271, 000	21, 650		
ιad			125, 578	25, 556				
ιarks					6, 300	500		
oot	7, 230	250						
queteagues, or "sea trout"	2, 445	160			6, 000	370		
quirrelfish					5, 500	440		
rabs, hard							2, 370	$500
ctopus					2, 000	400		
Total	42, 625	2, 139	126, 882	25, 716	353, 375	28, 989	2, 370	500

Fisheries of South Carolina, 1928—Continued

CATCH: BY GEAR—Continued

Species	Cast nets		Otter trawls, shrimp		Spears		Oyster dredges	
	Pounds	*Value*	*Pounds*	*Value*	*Pounds*	*Value*	*Pounds*	*Value*
Flounders					17,000	$1,700		
Mullet	4,000	$200						
Shrimp			431,441	$17,526				
Oysters, market, public							21,000	$57
Oysters, market, private							42,000	1,08
Total	4,000	200	431,441	17,526	17,000	1,700	63,000	1,65

Species	Tongs		Rakes		Grabs		By hand	
	Pounds	*Value*	*Pounds*	*Value*	*Pounds*	*Value*	*Pounds*	*Value*
Clams, hard, public	312	$45	24,800	$3,820			1,072	$14
Oysters, market, public	1,753,857	52,388			3,169,453	$84,864	133,000	6,00
Oysters, market, private	340,781	9,280			337,624	8,680		
Terrapin							8,485	4,07
Total	2,094,950	61,713	24,800	3,820	3,507,077	93,544	142,557	10,21

OPERATING UNITS: BY COUNTIES

Items	Beaufort	Charleston	Colleton	Georgetown	Horry
	Number	*Number*	*Number*	*Number*	*Number*
Fishermen:					
On vessels	3	23			
On boats and shore—					
Regular	356	194		2	
Casual	193	124	104	289	217
Total	552	341	104	291	217
Vessels:					
Motor—					
5 to 10 tons		2			
11 to 20 tons	1	1			
Total vessels	1	3			
Total net tonnage	17	36			
Boats:					
Motor	3	19		21	
Other	532	198	61	117	53
Apparatus:					
Haul seines, common	13	7		6	13
Yards	975	450		850	2,050
Gill nets—					
Drift	23	5	2	66	22
Square yards	9,200	867	330	55,170	30,800
Stake				6	33
Square yards				9,070	2,145
Runaround				14	2
Square yards				4,365	400
Set	48	77	103	104	
Square yards	14,400	27,600	34,100	31,215	
Lines—					
Hand		84			
Hooks		417			
Trot, with baits or snoods		4			
Baits or snoods		300			
Cast nets	3				
Otter trawls, shrimp	2	3		4	
Yards at mouth	100	153		200	
Spears				34	
Dredges, oyster	2	2			
Yards at mouth	8	8			
Tongs	203	94	4		
Rakes				20	40
Grabs	280	117			

Fisheries of South Carolina, 1928—Continued

CATCH: BY COUNTIES

Species	Beaufort		Charleston		Colleton		Georgetown		Horry	
	Pounds	*Value*	*Pounds*	*Value*	*Pounds*	*Value*	*Pounds*	*Value*	*Pounds*	*Value*
Alewives							2,000	$100		
Bluefish			3,500	$280						
Carp							1,800	54		
Catfish and bullheads			300	24			2,100	63		
Croakers			9,300	490			900	45	1,900	$95
Drum, black			3,350	100			200	6		
Drum, red, or red fish			2,500	195			610	36	1,760	160
Flounders							18,500	1,820	2,200	220
Grunts			5,625	450						
Hickory shad	250	$25	450	45	100	$10	6,548	996	7,000	900
King whiting or "king fish"			38,000	4,090			2,500	150	21,000	1,050
Mullet	4,000	200					56,390	3,295	230,590	13,980
Sea bass			271,000	21,650						
Shad	22,445	3,424	47,355	8,562	63,000	11,390	148,377	35,498	39,060	7,440
Sharks			6,300	500						
Spot							17,130	575	72,700	2,250
Squeteagues or "sea trout"			6,000	370			3,790	270	9,730	760
Squirrelfish			5,500	440						
Sturgeon					3,000	1,000	20,360	2,200		
Crabs, hard			2,370	500						
Shrimp	361,941	14,476	65,000	2,600			4,500	450		
Clams, hard, public	760	95	624	90			800	70	24,000	3,750
Oysters, market, public	3,520,020	101,189	1,509.396	39,258	3,094	80	44,800	3,300		
Oysters, market, private			720,405	19,040						
Octopus			2,000	400						
Terrapin	9,454	4,758	4,130	1,550						
Total	3,918,870	124,167	2,703,105	100,634	69,194	12,480	331,305	48,928	409,940	30,605

INDUSTRIES RELATED TO THE FISHERIES

Transporting trade.—In 1928 there were 143 persons in South Caro-ina engaged primarily in transporting the catch of fish. In this trade 22 motor vessels and 40 sailing vessels, having a combined capacity of 635 net tons, were operated. The size of vessel in most popular use ranged from 5 to 10 net tons.

Wholesale trade.—There were 18 wholesale establishments in South Carolina engaged primarily in handling fresh and frozen products. This is 8 per cent of the total number of such establishments in the South Atlantic section. These establishments employed 236 persons who received $56,468 in salaries and wages. Beaufort County alone accounted for 10 of these establishments.

Prepared and by-products trade.—There were 18 establishments in South Carolina in 1928 engaged primarily in the manufacture of fishery products or by-products. This is 30 per cent of the total number in the South Atlantic section. They employed 656 persons who received $159,720 in salaries and wages. The products manufactured, consisting principally of canned oysters and shrimp, were valued at $1,028,113. Detailed statistics of most of the items manufactured may be obtained from Fishery Industries of the United States, 1928, Bureau of Fisheries Document No. 1067.

In addition to the above, 163,140 pounds of salted fish and sturgeon caviar, valued at $10,867, were prepared by the fishermen.

Industries related to the fisheries of South Carolina, 1928

TRANSPORTING

Items	Number	Items	Number
Men on transporting vessels	143	Transporting vessels—Continued.	
Transporting vessels:		Sail—	
Motor—		5 to 10 tons	2
5 to 10 tons	11	11 to 20 tons	1
11 to 20 tons	11	21 to 30 tons	
Total	22	Total	4
Net tonnage	246	Net tonnage	38
		Total vessels	6
		Total net tonnage	63

WHOLESALE FISHERY TRADE

Items	Beaufort County	Charleston, Colleton, and Horry Counties	Total
Establishments	10	8	18
Persons engaged:			
Proprietors	14	9	23
Salaried employees	5	22	27
Wage earners	164	22	186
Paid to salaried employees	$4, 200	$29, 600	$33, 800
Paid to wage earners	15, 568	7, 100	22, 668
Total salaries and wages	19, 768	36, 700	56, 468

PREPARED FISHERY PRODUCTS AND BY-PRODUCTS

Items	Number	Products	Quantity	Value
Establishments	18	Canned:		
Persons engaged:		Oysters-----standard cases [1]	133, 302	$729, 420
Proprietors	19	Shrimp—		
Salaried employees	68	Dry pack-----do	4, 008	23, 653
Wage earners	569	Wet pack-----do	24, 673	153, 991
		Oyster-shell products:		
Paid to salaried employees	$53, 920	Poultry feed-----tons	11, 040	116, 410
Paid to wage earners	105, 800	Lime-----do	671	4, 639
Total salaries and wages	159, 720	Total		1, 028, 113

PRODUCTS PREPARED BY THE FISHERMEN

Items	Pounds	Value
Salted:		
Mullet	130, 300	$9, 120
Spot	32, 700	1, 635
Sturgeon caviar	140	112
Total	163, 140	10, 867

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[1] A standard case contains forty-eight 5-ounce cans of oysters, forty-eight 5-ounce cans in the dry pack, or forty-eight 5¾-ounce cans in the wet pack of shrimp.

GEORGIA

The fisheries of Georgia in 1928 employed 11 per cent of the total number of fishermen and accounted for 16 per cent of the total catch of the South Atlantic section. The fisheries and industries related to the fisheries employed 2,224 persons, which is 15 per cent greater than the number employed during 1927. Of the total, 1,288 were fishermen, 44 were employed on transporting vessels, 395 in the wholesale trade, and 497 in the prepared-products and by-products industries.

The total catch amounted to 42,068,780 pounds, valued at $866,287. This is a decrease of 12 per cent in the catch and an increase of 24 per cent in the value of the catch as compared with the catch and its value for 1927. Of the total value of the catch, that for shrimp accounted for 63 per cent; menhaden, 13 per cent; and oysters, 6 per cent. Of the total production, that of menhaden accounted for 71 per cent and shrimp, 23 per cent.

OPERATING UNITS BY GEAR

The catch of fishery products in Georgia during 1928 was taken by 1,288 fishermen, 26 motor vessels, 737 motor and other small boats, and 10 major types of gear. The vessels had a combined capacity of 351 net tons. The fisheries accounting for the greatest number of persons were the otter trawl fishery, employing 493 fishermen, the drift gill-net fishery, employing 391 fishermen, and the crab fishery, employing 258 fishermen.

CATCH BY GEAR

Two types of gear accounted for 95 per cent of the fishery products taken in the fisheries of Georgia during 1928. Listed in order of their mportance they were purse seines which accounted for 71 per cent of the catch, and otter trawls, used for shrimp, accounted for 24 per cent of the catch. The catch by purse seines was exclusively menhaden and that by otter trawls, chiefly shrimp.

OPERATING UNITS BY COUNTIES

Chatham County was foremost in the number of persons fishing, accounting for 34 per cent of the total. Glynn County followed with 31 per cent. Other counties employing a considerable number of fishermen, listed in order of their importance in this respect, were Camden, McIntosh, and Bryan. Glynn County accounted for 54 per cent of the total number of fishing vessels and Chatham County 23 per cent. Chatham County led in the number of motor and other mall fishing boats, accounting for 38 per cent of the total. Glynn County followed with 27 per cent.

CATCH BY COUNTIES

Fishing was prosecuted in the marine waters of nine counties in Georgia during 1928. Ranked according to value the fisheries of Glynn County were most important, accounting for 18 per cent of he total catch and 51 per cent of the total value of the catch. Camden County was next in importance, accounting for 73 per cent f the catch and 19 per cent of the value of the catch. Other important counties listed in order of their importance with respect to alue of the catch were Chatham, McIntosh, and Bryan.

Fisheries of Georgia, 1928

OPERATING UNITS: BY GEAR

Items	Purse seines, menhaden	Haul seines, common	Gill nets				Lines	
			Drift	Stake	Anchor	Run-around	Hand	Trot with baits or snoods
	Number	*Number*	*Number*	*Number*	*Number*	*Number*	*Number*	*Number*
Fishermen:								
On vessels	87						8	
On boats and shore—								
Regular		22	61		8	7		15
Casual		4	330	35	22	2		17
Total	87	26	391	35	30	9	8	32
Vessels:								
Motor—								
11 to 20 tons							1	
41 to 50 tons	1							
51 to 60 tons	1							
61 to 70 tons	1							
Total	3						1	
Net tonnage	166						14	
Boats:								
Motor		1	6		3	1		
Other		8	171	35	20	7		32
Apparatus:								
Number	3	13	191	159	20	9	8	77
Length, yards	900	1,405						
Square yards			139,495	3,816	4,792	3,565		
Hooks, baits, or snoods							16	5,40

Items	Fyke nets	Dip nets, drop	Cast nets	Otter trawls, shrimp	Tongs	Grabs	By hand	Total, exclusive of duplication
	Number	*Number*	*Number*	*Number*	*Number*	*Number*	*Number*	*Number*
Fishermen:								
On vessels				51				14
On boats and shore—								
Regular	15	4	17	442	142	220	15	68
Casual		2	1		37	38	20	45
Total	15	6	18	493	179	258	35	1,28
Vessels:								
Motor—								
5 to 10 tons				21				2
11 to 20 tons				1				
41 to 50 tons								
51 to 60 tons								
61 to 70 tons								
Total				22				2
Net tonnage				171				35
Boats:								
Motor				216	14	14		22
Other	15	6	18		165	243		50
Apparatus:								
Number	50	6	18	238	179	258		
Yards at mouth				13,175				

Fisheries of Georgia, 1928—Continued

CATCH: BY GEAR

Species	Gill nets							
	Drift		Stake		Anchor		Runaround	
	Pounds	*Value*	*Pounds*	*Value*	*Pounds*	*Value*	*Pounds*	*Value*
Catfish and bullheads							800	$40
Croakers					10,000	$1,000	300	30
Drum, black					3,000	150	250	20
Drum, red, or redfish					5,000	250	1,000	125
Flounders					2,500	300	500	63
Hickory shad	48,752	$5,600	4,800	$445				
King whiting or "kingfish"					1,500	150	2,000	200
Mullet					7,500	600	6,930	575
Shad	297,867	69,326	11,700	2,650	7,700	1,700		
Sheepshead, salt-water					670	100	800	100
Spot					7,500	600	400	40
Squeteagues or "sea trout"					10,616	1,580	7,500	987
Striped bass					340	50	250	45
Sturgeon	1,750	350						
Tripletail					1,050	150	500	62
Total	348,369	75,276	16,500	3,095	57,376	6,630	21,230	2,287

Species	Lines				Purse seines, menhaden		Haul seines, common		Fyke nets	
	Hand		Trot with baits or snoods							
	Pounds	*Value*	*Pounds*	*Value*	*Pounds*	*Value*	*Pounds*	*Value*	*Pounds*	*Value*
Bluefish	50,000	$5,000								
Catfish and bullheads	60	15							140,000	$14,000
Groupers	8,274	414								
Jewfish	3,200	160								
Menhaden					30,030,000	$113,310				
Muttonfish	1,650	132								
Sea bass	85,200	8,380								
Snapper, red	22,500	1,920								
Striped bass	150	12								
Crabs, hard			238,200	$6,220						
Terrapin			11,100	3,527			10,838	$3,494		
Total	171,034	16,033	249,300	9,747	30,030,000	113,310	10,838	3,494	140,000	14,000

Species	Dip nets, drop		Cast nets		Otter trawls, shrimp	
	Pounds	*Value*	*Pounds*	*Value*	*Pounds*	*Value*
Flounders					12,690	$900
King whiting or "kingfish"					52,500	2,100
Mullet			42,895	$3,000		
Crabs, hard	19,200	$720			311,941	12,476
Shrimp					9,526,044	545,354
Total	19,200	720	42,895	3,000	9,903,175	560,830

Species	Tongs		Grabs		By hand	
	Pounds	*Value*	*Pounds*	*Value*	*Pounds*	*Value*
Clams, hard, public					800	$125
Oysters, market, public	94,710	$5,700	67,830	$3,826	37,100	3,450
Oysters, market, private	296,380	13,725	552,405	27,969		
Terrapin					9,638	3,070
Total	391,090	19,425	620,235	31,795	47,538	6,645

Fisheries of Georgia, 1928—Continued

OPERATING UNITS: BY COUNTIES

Items	Bryan	Camden	Chatham	Charlton	Glynn	Liberty	McIntosh	Tattnall	Wayn
	Number	*Number*	*Number*	*Number*	*Number*	*Number*	*Number*	*Number*	*Numbe*
Fishermen:									
On vessels		89	19		33		5		
On boats and shore—									
Regular		37	274		261	21	93		
Casual	70	31	149	10	111		25	35	2
Total	70	157	442	10	405	21	123	35	2
Vessels:									
Motor—									
5 to 10 tons		1	5		13		2		
11 to 20 tons			1		1				
41 to 50 tons		1							
51 to 60 tons		1							
61 to 70 tons		1							
Total vessels		4	6		14		2		
Total net tonnage		175	52		108		16		
Boats:									
Motor		18	55		132		24		
Other	40	26	207	7	81	21	77	35	1
Apparatus:									
Purse seines, menhaden		3							
Yards		900							
Haul seines, common			2		9		2		
Yards			150		1, 055		200		
Gill nets—									
Drift	31	26	50	7	39		12		2
Square yards	21, 000	3, 900	77, 600	1, 050	20, 215		7, 930		7, 80
Stake								159	
Square yards								3, 816	
Anchor	10				9		1		
Square yards	2, 200				2, 400		192		
Runaround	1		5		3				
Square yards	200		2, 000		1, 365				
Lines—									
Hand			8						
Hooks			16						
Trot with baits or snoods			63		14				
Baits or snoods			2, 304		3, 100				
Fyke nets							50		
Dip nets, drop			6						
Cast nets			10		2		6		
Otter trawls, shrimp		19	47		141		31		
Yards at mouth		960	2, 550		7, 990		1, 675		
Tongs			147		20	8	4		
Grabs			166		16	21	55		

CATCH: BY COUNTIES

Species	Bryan		Camden		Charlton		Chatham	
	Pounds	*Value*	*Pounds*	*Value*	*Pounds*	*Value*	*Pounds*	*Valu*
Bluefish							50, 000	$5, 0
Catfish and bullheads	800	$40					60	
Flounders							12, 690	9
Groupers							8, 274	4
Hickory shad	200	30					11, 427	1, 0
Jewfish							3, 200	1
King whiting or "kingfish"							52, 500	2, 1
Menhaden			30, 030, 000	$113, 310				
Mullet	2, 500	175					36, 445	2, 5
Muttonfish							1, 650	1
Seabass							85, 200	8, 3
Shad	58, 200	12, 700	36, 000	7, 457	9, 000	$1, 864	143, 980	38, 0
Snapper, red							22, 500	1, 9
Squeteagues or "sea trout"							2, 000	3
Striped bass	250	45					150	
Crabs, hard							414, 341	16, 3
Shrimp			715, 000	42, 900			669, 800	35, 6
Clams, hard, public							800	1
Oysters, market, public							109, 760	4, 2
Oysters, market, private							483, 700	20, 5
Terrapin							13, 051	4, 0
Total	61, 950	12, 990	30, 781, 000	163, 667	9, 000	1, 864	2, 121, 528	141, 7

Fisheries of Georgia, 1928—Continued

CATCH: BY COUNTIES—Continued

Species	Glynn		Liberty		McIntosh		Tattnall		Wayne	
	Pounds	*Value*	*Pounds*	*Value*	*Pounds*	*Value*	*Pounds*	*Value*	*Pounds*	*Value*
Catfish and bullheads					140,000	$14,000				
Croakers	10,300	$1,030								
Drum, black	3,250	170								
Drum, red, or redfish	6,000	375								
Flounders	3,000	363								
Hickory shad	26,250	3,500			8,250	825	4,800	$445	2,625	$245
King whiting or "kingfish"	3,500	350								
Mullet	16,500	1,300			1,880	150				
Shad	39,900	7,180			12,687	2,475	11,700	2,650	5,800	1,350
Sheepshead, salt-water	1,470	200								
Spot	7,900	640								
Squeteagues or "sea trout"	15,700	2,217			416	50				
Striped bass	340	50								
Sturgeon					1,750	350				
Tripletail	1,550	212								
Crabs, hard	155,000	3,100								
Shrimp	7,143,394	406,952			997,850	59,870				
Oysters, market, public	89,880	8,700								
Oysters, market, private	7,000	500	82,810	$4,750	275,275	15,935				
Terrapin	16,650	5,291			1,875	800				
Total	7,547,584	442,130	82,810	4,750	1,439,983	94,455	16,500	3,095	8,425	1,595

INDUSTRIES RELATED TO THE FISHERIES

Transporting trade.—In 1928 there were 44 persons in Georgia engaged in transporting the catch of fish. In this trade 18 motor vessels and 3 sailing vessels, having a combined capacity of 246 net tons, were operated. The size of vessel in most popular use ranged from 5 to 10 net tons.

Wholesale trade.—There were 24 wholesale establishments in Georgia engaged chiefly in handling fresh and frozen products. This is 11 per cent of the total number of such establishments in the South Atlantic section. These establishments employed 395 persons who received $148,858 in salaries and wages. Glynn County accounted for 10 of these establishments and 9 were located in Chatham County.

Prepared and by-products trade.—There were 13 establishments in 1928 engaged primarily in the manufacture of prepared-products or by-products. This is 22 per cent of the total number in the South Atlantic section. They employed 497 persons who received $172,338 in salaries and wages. The products manufactured, consisting principally of canned shrimp and oysters, were valued at $886,049. Detailed statistics of most of the items manufactured may be obtained from Fishery Industries of the United States, 1928, Bureau of Fisheries Document No. 1067.

Industries related to the fisheries of Georgia, 1928

TRANSPORTING

Items	Number
Men on transporting vessels	4
Transporting vessels:	
Motor—	
5 to 10 tons	1
11 to 20 tons	
41 to 50 tons	
Total	1
Net tonnage	22
Sail, 5 to 10 tons	
Net tonnage	2
Total vessels	2
Total net tonnage	24

WHOLESALE FISHERY TRADE

Items	Chatham County	Glynn County	Liberty and McIntosh Counties	Total
Establishments	9	10	5	2
Persons engaged:				
Proprietors	11	13	7	3
Salaried employees	28	19	1	4
Wage earners	52	234	30	31
Paid to salaried employees	$38, 710	$16, 898	$300	$55, 90
Paid to wage earners	23, 700	63, 550	5, 700	92, 95
Total salaries and wages	62, 410	80, 448	6, 000	148, 85

PREPARED FISHERY PRODUCTS AND BY-PRODUCTS

Items	Number	Products	Quantity	Value
Establishments	13	Canned:		
Persons engaged:		Oysters—standard cases [1]	22, 100	$119, 73
Proprietors	21	Shrimp—		
Salaried employees	51	Dry pack do	30, 074	184, 67
Wage earners	425	Wet pack do	67, 492	394, 60
		Miscellaneous products [2]		187, 04
Paid to salaried employees	$58, 837			
Paid to wage earners	113, 501	Total		886, 04
Total salaries and wages	172, 338			

[1] A standard case contains forty-eight 5-ounce cans of oysters, forty-eight 5-ounce cans in the dry pack, c forty-eight 5¾-ounce cans in the wet pack of shrimp.

[2] Includes canned clam chowder, canned terrapin meat and terrapin soup, and acidulated scrap and o from menhaden.

EAST COAST OF FLORIDA [5]

The fisheries of the east coast of Florida in 1928 employed 25 pe cent of the total number of fishermen and accounted for 26 per cen of the total catch of the South Atlantic section. The fisheries an industries related to the fisheries employed 3,806 persons, which is decrease of less than one-half of 1 per cent as compared with th number employed in 1927. Of the total, 3,026 were fishermen, 1 wa employed on a transporting vessel, 582 in the wholesale trade, an 197 in the prepared-products and by-products industries.

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[5] See pp. 914–923 for complete statistics for Florida.

The total catch amounted to 67,040,079 pounds, valued at $2,214,839. This is an increase of 11 per cent in the catch and 18 per cent in the value of the catch as compared with the catch and its value for 1927. Of the total value of the catch, that for shrimp accounted for 39 per cent; mullet, 11 per cent; and kingfish, or "king mackerel," Spanish mackerel, and catfish and bullheads each accounted for 6 per cent. Of the total production, that of shrimp accounted for 34 per cent; menhaden, 32 per cent; mullet, 10 per cent; and catfish and bullheads, 5 per cent.

OPERATING UNITS BY GEAR

The catch of fishery products along the east coast of Florida was taken by 3,026 fishermen who used 25 motor vessels, 2,333 motor and other small fishing boats, and 15 major types of gear. The vessels had a combined capacity of 469 net tons. The fisheries accounting for the greatest number of persons were the drift gill-net fishery employing 888 fishermen, the otter-trawl fishery employing 716 fishermen, the troll-line fishery employing 660 fishermen, and the hand-line fishery employing 539 fishermen.

CATCH BY GEAR

Four types of gear accounted for 91 per cent of the fishery products taken in the marine fisheries of the east coast of Florida in 1928. Listed in order of their importance, they were otter trawls which accounted for 34 per cent of the catch; purse seines, 33 per cent; gill nets, 17 per cent; and lines, 7 per cent. The catch by otter trawls was almost exclusively shrimp, that by purse seines almost entirely menhaden, that by gill nets chiefly mullet and Spanish mackerel, and that by hand lines chiefly squeteagues or "sea trout," flounders, muttonfish, and bluefish.

OPERATING UNITS BY COUNTIES

St. Johns and Nassau Counties each accounted for 14 per cent of the total number of fishermen. Dade County followed with 13 per cent. Other counties employing a considerable number of fishermen listed in order of their importance in this respect were Palm Beach, Duval, Putman, Volusia, Martin, Brevard, and St. Lucie—Nassau County accounting for 52 per cent of the total number of fishing vessels. No other county had in excess of four vessels operating in the fishing industries. Dade County led in the number of motor and other small fishing boats, accounting for 13 per cent of the total. Duval followed with 11 per cent.

CATCH BY COUNTIES

Fishing was prosecuted in the marine waters of 15 counties on the east coast of Florida during 1928. Ranked according to value the fisheries of Nassua County were most important, accounting for 50 per cent of the total catch and 22 per cent of the total value of the catch. St. Johns County was next in importance, accounting for 15 per cent of the catch and 18 per cent of the value. Other important counties listed in order of their importance with respect to the value of the catch were Dade, Putman, Martin, and Brevard.

Fisheries of the east coast of Florida, 1928

OPERATING UNITS: BY GEAR

Items	Purse seines		Haul seines, common	Gill nets		Trammel nets	Lines	
	Menhaden	Other		Drift	Set		Hand	Trot with hooks
Fishermen:	*Number*	*Number*	*Number*	*Number*	*Number*	*Number*	*Number*	*Number*
On vessels	114	30						
On boats and shore—								
Regular			218	860	2	3	290	181
Casual				28			249	
Total	114	30	218	888	2	3	539	181
Vessels:								
Motor—								
5 to 10 tons		1						
11 to 20 tons		1						
31 to 40 tons	1							
41 to 50 tons	1	1						
51 to 60 tons	1							
81 to 90 tons	1							
Total vessels	4	3						
Total net tonnage	221	61						
Boats:								
Motor			74	395	1	2	242	26
Other			158	530	1	1	137	164
Apparatus:								
Number	4	3	78	944	6	3	539	356
Length, yards	1, 200	900	54, 130					
Square yards				1, 507, 500	7, 200	1, 350		
Hooks, baits or snoods							569	58, 600

Items	Lines		Pound nets	Fyke nets	Dip nets	Cast nets	Otter trawls, shrimp
	Trot with baits or snoods	Troll					
Fishermen:	*Number*	*Number*	*Number*	*Number*	*Number*	*Number*	*Number*
On vessels							46
On boats and shore—							
Regular	4	660	15	3	46	25	670
Total	4	660	15	3	46	25	716
Vessels:							
Motor—							
5 to 10 tons							11
11 to 20 tons							6
21 to 30 tons							1
Total vessels							18
Total net tonnage							187
Boats:							
Motor	2	361	6	2	16		335
Other			8	3	35	6	
Apparatus:							
Number	2	753	21	22	46	19	353
Yards at mouth							6, 673
Hooks, baits or snoods	1, 000	1, 427					

Fisheries of the east coast of Florida, 1928—Continued

OPERATING UNITS: BY GEAR—Continued

Items	Pots		Spears	Tongs	Forks	Sea crawfish and stone crab hooks	By hand	Total, exclusive of duplication
	Eel	Sea crawfish						
Fishermen:	*Number*	*Number*	*Number*	*Number*	*Number*	*Number*	*Number*	*Number*
On vessels								190
On boats and shore—								
Regular	4	55	10	94	62	44	85	2, 555
Casual					4			281
Total	4	55	10	94	66	44	85	3, 026
Vessels:								
Motor—								
5 to 10 tons								12
11 to 20 tons								7
21 to 30 tons								1
31 to 40 tons								1
41 to 50 tons								2
51 to 60 tons								1
81 to 90 tons								1
Total vessels								25
Total net tonnage								469
Boats:								
Motor	4	32		10	2	18	2	1, 202
Other	4	25		62	51	31	73	1, 131
Apparatus: Number	65	1, 998	10	94	62	44		

CATCH: BY GEAR

Species	Purse seines				Haul seines, common		Gill nets, drift	
	Menhaden		Other					
	Pounds	*Value*	*Pounds*	*Value*	*Pounds*	*Value*	*Pounds*	*Valu*
Alewives					370, 128	$2, 935		
Black bass					125, 200	14, 391		
Bluefish			80, 000	$6, 400	2, 476	270	335, 404	$38, 743
Blue runner or hardtail			20, 000	800	1, 600	40	91, 724	2, 957
Butterfish							1, 440	43
Catfish and bullheads					2, 090, 555	85, 144	17, 092	498
Crappie					350, 288	24, 539		
Crevalle			15, 000	600	38, 150	1, 141	143, 193	4, 148
Croaker					3, 400	92	40, 039	1, 342
Drum, black			800	16	34, 500	1, 091	72, 063	1, 880
Drum, red, or redfish			1, 000	40	15, 920	745	130, 653	6, 181
Eels					545	27		
Flounders					1, 020	48	12, 672	547
Hickory shad					35, 480	1, 419		
Jewfish					2, 000	40		
King whiting or "kingfish"					3, 823	274	111, 904	4, 804
Ladyfish							3, 000	60
Menhaden	21, 511, 600	$40, 330						
Mojarro					188, 272	7, 387	288, 800	14, 084
Moonfish							192	5
Mullet			600, 000	18, 000	140, 484	5, 409	5, 740, 526	227, 639
Muttonfish			500	50				
Permit					200	4	3, 695	116
Pigfish					15, 750	470	108, 328	3, 452
Pinfish or sailors choice					13, 600	420	165, 401	4, 588
Pompano			1, 200	240	53, 170	13, 181	199, 219	56, 038
Shad					220, 912	31, 028	465, 120	72, 678
Sheepshead, salt-water					6, 120	258	51, 866	2, 390
Snapper, mangrove					6, 400	256	53, 655	2, 662
Snook or sergeantfish			1, 000	40	10, 900	439	156, 444	7, 504
Spadefish					1, 900	54	10, 004	327
Spanish mackerel			35, 500	2, 130			1, 982, 524	129, 005
Spot					17, 600	557	210, 203	6, 571
Squeteagues or "sea trout"					60, 000	6, 312	857, 404	83, 498
Sunfish					437, 812	17, 383		
Crabs, hard							11, 340	340
Turtles					6, 534	131		
Total	21, 511, 600	40, 330	755, 000	28, 316	4, 254, 739	215, 485	11, 263, 905	672, 100

Fisheries of the east coast of Florida, 1928—Continued

CATCH: BY GEAR—Continued

Species	Gill nets, set		Trammel nets		Lines			
					Hand		Trot with hooks	
	Pounds	*Value*	*Pounds*	*Value*	*Pounds*	*Value*	*Pounds*	*Value*
Amberjack					10,347	$470		
Black bass			216	$26	15,200	1,824		
Bluefish					109,045	15,691		
Blue runner or hardtail					3,500	175		
Bonito					2,000	300		
Cabio or crab eater					200	10		
Catfish and bullheads							835,223	$33,798
Crappie			1,000	80				
Crevalle					13,800	480		
Croaker					400	24		
Dolphin					6,000	600		
Drum, black					15,303	513		
Drum, red, or redfish					52,559	2,509		
Flounders					2,300	99		
Groupers					145,466	6,312		
Grunts					38,643	1,531		
Hogfish					3,000	90		
Jewfish					11,900	361		
Kingfish or "king mackerel"					15,000	900		
King whiting or "kingfish"					13,000	1,300		
Mullet			334	16				
Muttonfish					113,400	10,032		
Pike					2,000	100		
Pinfish or sailors choice					300	16		
Pompano					30,300	8,915		
Porgies					22,000	760		
Sea bass					38,169	4,213		
Shad	4,900	$730						
Sheepshead, salt-water					17,758	866		
Snapper, mangrove					29,450	1,952		
Snapper, red					46,450	4,569		
Snook or sergeantfish					80,150	4,142		
Spanish mackerel					23,800	1,918		
Spot					350	17		
Squeteagues or "sea trout"					269,900	27,550		
Sunfish			1,200	60	319	16		
Tripletail					400	16		
Yellowtail					63,300	5,106		
Total	4,900	730	2,750	182	1,195,709	103,377	835,223	33,798

Species	Lines				Pound nets		Fyke nets		Dip nets, common	
	Trot with baits or snoods		Troll							
	Pounds	*Value*	*Pounds*	*Value*	*Pounds*	*Value*	*Pounds*	*Value*	*Pounds*	*Value*
Amberjack			1,500	$60						
Barracuda			12,000	360						
Bluefish			72,095	7,350						
Blue runner or hardtail			6,500	205						
Catfish and bullheads					255,221	$10,961	5,000	$200		
Cero			5,000	250						
Crappie					34,000	2,380	2,169	213		
Crevalle			3,593	114						
Groupers			1,500	90						
Kingfish or "king mackerel"			2,630,656	135,817						
Muttonfish			1,000	100						
Snapper, red			600	60						
Snook or sergeantfish			2,500	140						
Spanish mackerel			32,558	2,856						
Sunfish					16,000	640	900	45		
Yellowtail			1,134	68						
Crabs, hard	83,000	$3,000							39,936	$3,994
Sea crawfish or spiny lobster									87,963	7,037
Total	83,000	3,000	2,770,636	147,470	305,221	13,981	8,069	458	127,899	11,031

Fisheries of the east coast of Florida, 1928—Continued

CATCH: BY GEAR—Continued

Species	Cast nets		Otter trawls, shrimp		Pots				Spears	
					Eel		Sea crawfish			
	Pounds	*Value*	*Pounds*	*Value*	*Pounds*	*Value*	*Pounds*	*Value*	*Pounds*	*Value*
Drum, black			2,784	$56						
Drum, red, or redfish	1,892	$151								
Eels					15,468	$619				
Flounders			27,565	699					3,000	$180
King whiting or "kingfish"			247,763	7,764						
Mullet	45,450	3,624								
Squeteagues or "sea trout"			51,190	1,520						
Crabs, stone							32,000	$3,520		
Sea crawfish or spiny lobster							235,026	18,802		
Shrimp			22,507,186	864,614						
Total	47,342	3,775	22,836,488	874,653	15,468	619	267,026	22,322	3,000	180

Species	Tongs		Forks		Sea crawfish and stone crab hooks		By hand	
	Pounds	*Value*	*Pounds*	*Value*	*Pounds*	*Value*	*Pounds*	*Value*
Crabs, stone					3,000	$330		
Sea crawfish or spiny lobster					44,117	3,529		
Clams, hard, public			25,840	$3,092				
Oysters, market, public	195,034	$17,276					382,753	$12,865
Oysters, market, private	87,360	5,340					14,000	600
Total	282,394	22,616	25,840	3,092	47,117	3,859	396,753	13,465

OPERATING UNITS: BY COUNTIES

Items	Brevard	Broward	Clay	Dade	Duval	Flagler	Indian River	Martin
Fishermen:	*Number*	*Number*	*Number*	*Number*	*Number*	*Number*	*Number*	*Number*
On vessels				30				3
On boats and shore—								
Regular	158	50	35	306	269	3	63	136
Casual	18	25		70	12		4	40
Total	176	75	35	406	281	3	67	179
Vessels:								
Motors—								
5 to 10 tons				1				
11 to 20 tons				1				
21 to 30 tons								1
41 to 50 tons				1				
Total				3				1
Net tonnage				61				21
Boats:								
Motor	63	28	11	202	91		39	123
Other	163	12	26	106	168	1	52	63
Apparatus:								
Purse seines—								
Other than menhaden				3				
Yards				900				
Haul seines, common			7		6	1		6
Yards			6,800		1,400	350		6,000
Gill nets—								
Drift	189	7		82	154		58	95
Square yards	153,350	6,800		144,900	246,800		46,250	148,100
Set					6			
Square yards					7,200			
Lines—								
Hand	30	43		220	52	3	14	38
Hooks	30	43		220	71	3	14	38
Trot			35		242			
Hooks			11,500		12,100			
Troll	24	24		194	27		28	110
Hooks	24	48		388	27		28	220

Fisheries of the east coast of Florida, 1928—Continued

OPERATING UNITS: BY COUNTIES—Continued

Items	Brevard	Broward	Clay	Dade	Duval	Flagler	Indian River	Mar
Apparatus—Continued.	*Number*	*Number*	*Number*	*Number*	*Number*	*Number*	*Number*	*Num*
Dip nets				42	4			
Cast nets		12				1		
Otter trawls, shrimp					10			
Yards at mouth					200			
Pots, sea crawfish		220		1,778				
Tongs					24		4	
Hooks				44				

Items	Nassau	Palm Beach	Putnam	St. Johns	St. Lucie	Seminole	Volu sia
Fishermen:	*Number*	*Number*	*Number*	*Number*	*Number*	*Number*	*Num*
On vessels	138			9			
On boats and shore—							
Regular	270	260	212	427	159	63	1
Casual	20	28	20				
Total	428	288	232	436	159	63	1
Vessels:							
Motor—							
5 to 10 tons	6			3			
11 to 20 tons	3			1			
31 to 40 tons	1						
41 to 50 tons	1						
51 to 60 tons	1						
81 to 90 tons	1						
Total	13			4			
Net tonnage	313			33			
Boats:							
Motor	119	125	75	201	86		
Other	53	38	170	21	64	63	1
Apparatus:							
Purse seines—							
Menhaden	4						
Yards	1,200						
Haul seines, common			48	2			
Yards			33,400	150			6,0
Gill nets—							
Drift	20	104	25		156		5
Square yards	7,200	157,000	53,500		498,200		45,4
Trammel nets			3				
Square yards			1,350				
Lines—							
Hand		49	20		13		5
Hooks		49	20		13		6
Trot			16			63	
Hooks			4,000			31,000	
Trot with baits or snoods							
Baits or snoods							1,00
Troll		222			124		
Hooks		444			248		
Pound nets			21				
Fyke nets			22				
Cast nets				6			
Otter trawls, shrimp	127			205			1
Yards at mouth	2,422			3,792			22
Pots, eel			65				
Spears							1
Tongs					8		5
Forks				16			4

Fisheries of the east coast of Florida, 1928—Continued

CATCH: BY COUNTIES

Species	Brevard		Broward		Clay		Dade	
	Pounds	*Value*	*Pounds*	*Value*	*Pounds*	*Value*	*Pounds*	*Value*
Amberjack			5,000	$270			5,500	$220
Barracuda							12,000	360
Black bass					19,075	$1,938		
Bluefish	4,295	$430	9,200	920			109,400	9,340
Blue runner or hardtail	2,400	48	13,500	475			30,500	1,115
Catfish and bullheads	7,759	155			617,089	24,844		
Cero							5,000	250
Crappie					2,996	239		
Crevalle	27,938	631	6,800	260			30,000	1,050
Croaker	7,218	162						
Dolphin			6,000	600				
Drum, black	32,988	670	600	18			10,800	316
Drum, red, or redfish	74,768	2,975	1,000	40			8,500	340
Flounders	4,117	146						
Groupers			33,500	2,010			88,000	3,520
Grunts							37,200	1,488
Hogfish							3,000	90
Jewfish							11,500	345
Kingfish or "king mackerel"	3,358	201	158,000	10,910			617,000	30,85
King whiting or "kingfish"	55,389	2,106					2,000	80
Ladyfish							3,000	60
Mojarro	50,056	1,502	3,400	136			5,000	150
Mullet	2,219,215	80,864	50,400	3,712			1,468,000	52,720
Muttonfish			47,000	4,700			61,900	4,962
Permit							2,000	60
Pigfish	56,698	1,602					2,000	60
Pinfish or sailors choice	116,381	3,120					500	15
Pompano	23,153	5,778	200	40			4,200	840
Porgies			5,000	250			17,000	510
Sheepshead, salt-water	16,276	596					1,000	40
Snapper, mangrove	8,923	321	1,400	84			21,350	1,708
Snapper, red			4,100	410			15,800	1,264
Snook or sergeantfish	41,311	1,580	2,200	128			6,000	240
Spadefish	2,869	77	200	6				
Spanish mackerel			23,000	1,840			539,100	32,346
Spot	82,690	2,232					1,000	30
Squeteagues or "sea trout"	529,019	50,032					22,000	1,760
Sunfish					69,171	2,075		
Yellowtail			2,100	210			61,200	4,896
Crabs, hard	11,340	340						
Crabs, stone							35,000	3,850
Sea crawfish or spiny lobster			34,000	2,720			333,106	26,648
Total	3,378,161	155,568	406,600	29,739	708,331	29,096	3,569,556	181,523

Species	Duval		Flagler		Indian River		Martin	
	Pounds	*Value*	*Pounds*	*Value*	*Pounds*	*Value*	*Pounds*	*Value*
Bluefish	845	$67	200	$20	9,380	$1,042	108,981	$16,250
Blue runner or hardtail					2,700	81	21,672	837
Butterfish					1,440	43		
Catfish and bullheads	417,000	16,780					24,133	691
Crevalle	3,898	100			18,230	477	56,730	1,829
Croaker	5,100	239			6,360	191	16,510	606
Drum, black	7,600	256	700	35	8,615	224	36,960	1,098
Drum, red, or redfish	13,348	677	5,000	250	18,719	748	29,866	1,584
Flounders	2,000	104	300	15	5,600	224	2,275	118
Groupers	114	11			5,000	150	4,000	200
Jewfish							2,400	56
Kingfish or "king mackerel"					828	41	57,607	4,032
King whiting or "kingfish"	1,000	50	3,000	300	17,435	697	12,832	748
Mojarro					35,016	1,258	263,386	12,072
Mullet	307,855	15,893	2,400	120	643,626	25,745	703,965	27,618
Muttonfish							2,000	200
Permit							720	25
Pigfish					12,600	378	20,880	643
Pinfish or sailors choice	1,220	43	250	13	13,410	342	15,040	462
Pompano	828	207	200	60	26,250	6,030	163,893	46,042
Seabass	16,969	1,697			400	20		
Shad	224,243	33,240						
Sheepshead, salt-water	4,658	243	500	25	12,300	492	20,025	1,073
Snapper, mangrove					15,920	637	15,196	752
Snapper, red	9,532	953			4,518	452		
Snook or sergeantfish	100	3	100	5	37,164	1,486	99,943	5,736
Spadefish					700	21	4,529	153
Spanish mackerel	14,046	1,646			9,912	694	346,303	27,704
Spot	15,458	635	400	20	63,973	1,721	36,282	1,267
Squeteagues or "sea trout"	78,189	8,973	2,400	360	197,012	19,701	82,514	8,251
Tripletail					400	16		
Crabs, hard	39,936	3,994						
Shrimp	298,951	11,958					168,750	6,000
Oysters, market, public	64,330	7,765			12,474	1,782		
Total	1,527,220	105,434	15,450	1,223	1,179,982	64,693	2,317,392	166,047

Fisheries of the east coast of Florida, 1928—Continued

CATCH: BY COUNTIES—Continued

Species	Nassau		Palm Beach		Putnam		St. Johns	
	Pounds	*Value*	*Pounds*	*Value*	*Pounds*	*Value*	*Pounds*	*Valu*
Alewives					311, 021	$2, 344		
Amberjack			1, 347	$40				
Black bass					107, 697	12, 919		
Bluefish			237, 478	24, 028			320	$
Blue runner or hardtail			32, 952	1, 001				
Catfish and bullheads					1, 559, 348	65, 141		
Crappie					354, 367	25, 168		
Crevalle			21, 993	670			200	
Croaker			3, 051	92				
Drum, black	800	$16	3, 603	113			3, 384	1
Drum, red, or redfish			5, 631	311			2, 692	2
Eels					16, 013	646		
Flounders	17, 647	402					10, 018	3
Groupers			14, 352	431				
Grunts			1, 443	43				
Hickory shad					34, 440	1, 377		
Kingfish or "king mackerel"			1, 402, 816	70, 381				
King whiting or "kingfish"	108, 911	3, 598	7, 871	355			139, 752	4, 2
Menhaden	21, 511, 600	40, 330						
Mojarro			90, 214	5, 153				
Moonfish			192	5				
Mullet			37, 896	1, 366	4, 734	236	5, 650	4
Muttonfish			4, 000	320				
Permit			175	5				
Pigfish			3, 000	90				
Pike					2, 000	100		
Pinfish or sailors choice			1, 850	56				
Pompano			42, 681	12, 504			40	
Shad	31, 932	6, 215			402, 604	59, 311		
Sheepshead, salt-water			3, 685	187			100	
Snapper, mangrove			5, 516	288				
Snapper, red			1, 100	110				
Snook or sergeantfish			22, 376	995				
Spadefish			1, 576	49				
Spanish mackerel			156, 989	12, 559				
Spot			1, 100	34			600	
Squeteagues or "sea trout"	1, 600	32	3, 607	308			50, 190	1, 5
Sunfish					329, 229	13, 756		
Yellowtail			1, 134	68				
Shrimp	11, 590, 120	426, 647					9, 673, 115	392, 4
Clams, hard, public							9, 040	84
Oysters, market, public	290, 913	6, 084					50, 190	1, 7
Oysters, market, private	14, 000	600						
Turtles					6, 534	131		
Total	33, 567, 523	483, 924	2, 109, 628	131, 562	3, 127, 987	181, 129	9, 945, 291	402, 0

Species	St. Lucie		Seminole		Volusia	
	Pounds	*Value*	*Pounds*	*Value*	*Pounds*	*Value*
Alewives					59, 107	$5
Black bass					13, 844	1, 3
Bluefish	47, 341	$5, 681			71, 580	10, 6
Blue runner or hardtail	10, 000	300			9, 600	3
Bonito					2, 000	3
Cabio or crab eater					200	1
Catfish and bullheads	2, 000	60	367, 500	$14, 700	208, 262	8, 3
Crappie					30, 094	1, 8
Crevalle	34, 547	1, 036			13, 400	41
Croaker	3, 000	90			2, 600	7
Drum, black	8, 000	240			11, 400	41
Drum, red, or redfish	6, 000	300			36, 500	2, 17
Flounders	500	25			4, 100	23
Groupers					2, 000	8
Hickory shad					1, 040	4
Kingfish or "king mackerel"	406, 047	20, 302				
King whiting or "kingfish"	15, 000	750			13, 300	1, 22
Mojarro	30, 000	1, 200				
Mullet	609, 053	24, 362			474, 000	21, 60
Permit	1, 000	30				
Pigfish	10, 000	300			18, 900	84
Pinfish or sailors choice	2, 000	60			28, 650	91
Pompano	19, 244	5, 773			3, 200	1, 09
Seabass					20, 800	2, 49
Shad					32, 153	5, 67
Sheepshead, salt-water	10, 000	500			7, 200	35
Snapper, mangrove	20, 000	1, 000			1, 200	8
Snapper, red					12, 000	1, 44
Snook or sergeantfish	40, 000	2, 000			1, 800	9

Fisheries of the east coast of Florida, 1928—Continued

CATCH: BY COUNTIES—Continued

Species	St. Lucie		Seminole		Volusia	
	Pounds	*Value*	*Pounds*	*Value*	*Pounds*	*Value*
padefish	1,000	$30			1,030	$45
panish mackerel	984,832	59,090			200	30
pot	5,000	150			21,650	1,026
queteagues or "sea trout"	94,163	7,573			177,800	20,330
unfish					57,831	2,313
rabs, hard					83,000	3,000
hrimp					776,250	27,600
lams, hard, public					16,800	2,252
ysters, market, public	26,880	3,840			133,000	8,900
ysters, market, private					87,360	5,340
Total	2,385,607	134,692	367,500	$14,700	2,433,851	133,450

INDUSTRIES RELATED TO THE FISHERIES

Transporting trade.—In 1928 there was only one person on the east oast of Florida engaged primarily in transporting the catch of fish. ne motor vessel having a capacity of 16 net tons was operated in his trade.

Wholesale trade.—There were 101 wholesale establishments along the ast coast of Florida engaged chiefly in handling fresh and frozen ishery products. This is 44 per cent of the total number of such stablishments in the South Atlantic section. These establishments mployed 582 persons who received $360,562 in salaries and wages. uval County accounted for 16 per cent of these establishments; t. Johns, 15 per cent; and Nassau, 12 per cent.

Prepared and by-products trade.—There were eight establishments long the east coast of Florida engaged primarily in the manufacture f prepared fishery products or by-products. This is 13 per cent of the otal number in the South Atlantic section. They employed 197 ersons who received $184,547 in salaries and wages. The products anufactured consisting principally of menhaden products and canned hrimp, were valued at $1,038,089. Detailed statistics of most of the tems manufactured may be obtained from Fishery Industries of the nited States, 1928, Bureau of Fisheries Document 1067.

Industries related to the fisheries of the east coast of Florida, 1928

TRANSPORTING

Items	Number
Men on transporting vessels	1
ransporting vessels (motor)	1
Net tonnage	16

WHOLESALE FISHERY TRADE

Items	Brevard	Dade	Duval	Indian River	Martin	Nassau
stablishments	10	7	16	5	5	12
ersons engaged:						
Proprietors	12	11	15	8	5	13
Salaried employees	1	5	18		5	2
Wage earners	14	14	46	6	5	93
aid to salaried employees	$1,500	$15,520	$57,796		$9,600	$1,760
aid to wage earners	8,782	15,656	33,332	$4,665	3,470	44,313
Total salaries and wages	10,282	31,176	91,128	4,665	13,070	46,073

Industries related to the fisheries of the east coast of Florida, 1928—Continued

WHOLESALE FISHERY TRADE—Continued

Items	Palm Beach	Putnam and Clay	St. Johns	St. Lucie	Volusia	Total
Establishments	7	11	15	7	6	1
Persons engaged:						
Proprietors	9	11	16	7	6	1
Salaried employees	9	2	6	6	2	
Wage earners	9	29	150	18	29	4
Paid to salaried employees	$16, 980	$3, 947	$7, 736	$9, 540	$2, 000	$126, 3
Paid to wage earners	7, 530	19, 908	71, 454	10, 765	14, 308	234, 1
Total salaries and wages	24, 510	23, 855	79, 190	20, 305	16, 308	360, 5

PREPARED FISHERY PRODUCTS AND BY-PRODUCTS

Items	Number	Product	Quantity	Value
Establishments	8	Canned shrimp:		
Persons engaged:		Dry pack...standard cases [1]	3, 766	$22, 0
Proprietors	9	Wet pack...do	44, 319	349, 2
Salaried employees	20	Miscellaneous products [2]		666, 8
Wage earners	168			
		Total		1, 038, 0
Paid to salaried employees	$72, 445			
Paid to wage earners	112, 102			
Total salaries and wages	184, 547			

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[1] A standard case contains forty-eight 5-ounce cans in the dry pack or forty-eight 5¾-ounce cans in th wet pack.

[2] Includes oyster-shell products, canned oysters, pickled shrimp, and fish meal, acid scrap, dry scrap, an oil from menhaden.

HISTORICAL REVIEW

Twelve general surveys have been made for statistics of the fisherie of the South Atlantic States during the 49 years from 1880 to 192 Beginning with a catch of 42,952,000 pounds in 1880 it constantl increased until 1918 when the greatest catch on record was taken whic amounted to 332,614,000 pounds. This large catch was due princi pally to the large catch of menhaden taken that year. In 1928 th catch amounted to 258,440,000 pounds. Comparative statistic for the catch of each of the more important species throughout thi period are shown in the following tables.

Fisheries of the South Atlantic States, 1880 to 1928

[Expressed in thousands of pounds and thousands of dollars; that is, 000 omitted]

Year	North Carolina		South Carolina		Georgia		Florida (east coast)		Total	
	Quantity	*Value*	*Quantity*	*Value*	*Quantity*	*Value*	*Quantity*	*Value*	*Quantity*	*Valu*
1880	32, 249	846	6, 143	212	2, 273	120	2, 287	78	42, 952	1, 2
1887	45, 125	773	4, 076	158	1, 883	81	(1)	(1)	(1)	(1)
1888	43, 023	776	4, 181	164	1, 958	83	(1)	174	(1)	1, 1
1889	45, 546	950	4, 879	200	2, 644	106	5, 982	199	59, 051	1, 4
1890	51, 799	1, 028	4, 945	203	2, 994	124	7, 464	220	67, 202	1, 5
1897	64, 234	1, 316	5, 280	210	4, 993	171	5, 883	136	80, 390	1, 8
1902	67, 585	1, 740	8, 174	263	11, 103	359	19, 584	478	106, 446	2, 8
1908	101, 422	1, 776	14, 104	288	14, 828	701	36, 521	1, 269	166, 875	4, 0
1918	210, 502	2, 979	3, 747	208	37, 154	416	81, 211	1, 746	332, 614	5, 3
1923	95, 192	2, 414	6, 763	285	39, 896	668	86, 896	1, 720	228, 747	5, 0
1927	144, 466	2, 777	8, 374	350	47, 607	697	60, 222	1, 871	260, 669	5, 6
1928	141, 899	2, 629	7, 432	317	42, 069	866	67, 040	2, 215	258, 440	6, 0

[1] Figures not available.

Fisheries of the South Atlantic States, 1880 to 1928—Continued

CATCH OF CERTAIN SPECIES: BY STATES

[Expressed in thousands of pounds; that is, 000 omitted]

Year	Alewives					Bluefish				
	North Carolina	South Carolina	Georgia	Florida (east coast)	Total	North Carolina	South Carolina	Georgia	Florida (east coast)	Total
1880	15,520	400	125	10	16,055	600	200	5	25	830
1887	23,747	--------	25	--------	--------	761	158	7	(1)	--------
1888	20,451	--------	24	--------	--------	847	151	6	(1)	--------
1889	19,316	37	36	--------	19,389	1,078	110	--------	5	1,193
1890	22,112	29	24	10	22,175	1,539	100	--------	7	1,646
1897	20,839	2	25	41	20,907	1,910	40	--------	46	1,996
1902	15,173	--------	22	406	15,601	1,049	1	--------	80	1,130
1908	12,530	--------	32	1,220	13,782	1,258	7	--------	372	1,637
1918	17,356	10	--------	692	18,058	323	3	5	561	892
1923	8,989	--------	--------	1,062	10,051	897	7	--------	1,101	2,005
1927	13,911	--------	--------	213	14,124	852	13	--------	772	1,637
1928	7,808	2	--------	370	8,180	754	4	50	599	1,407

Year	Butterfish [2]		Croaker					Drum, black				
	North Carolina	Florida (east coast)	North Carolina	South Carolina	Georgia	Florida (east coast)	Total	North Carolina	South Carolina	Georgia	Florida (east coast)	Total
1887	--------	--------	(1)	(1)	(1)	(1)	--------	--------	90	10	(1)	--------
1888	--------	--------	(1)	(1)	(1)	(1)	--------	--------	75	11	(1)	--------
1889	--------	--------	328	(1)	(1)	(1)	--------	--------	170	17	41	228
1890	--------	--------	354	(1)	(1)	(1)	--------	--------	185	15	28	228
1897	95	--------	1,295	(1)	(1)	(1)	--------	51	215	14	17	297
1902	83	--------	1,939	27	29	7	2,002	67	75	25	20	187
1908	1,302	--------	1,177	85	46	92	1,400	--------	--------	--------	--------	--------
1918	731	--------	387	16	6	124	533	--------	5	--------	531	536
1923	820	--------	2,262	26	--------	22	2,310	2	13	--------	47	62
1927	1,280	--------	3,932	13	3	39	3,987	11	3	--------	84	98
1928	112	1	6,775	12	10	44	6,841	9	4	3	125	141

Year	Drum, red, or redfish					Eels			
	North Carolina	South Carolina	Georgia	Florida (east coast)	Total	North Carolina	Georgia	Florida (east coast)	Total
1887	129	55	20	(1)	--------	6	--------	--------	--------
1888	140	51	21	(1)	--------	7	--------	--------	--------
1889	515	91	32	172	810	55	--------	--------	55
1890	219	88	39	171	517	161	--------	--------	161
1897	179	110	24	236	549	97	5	--------	102
1902	144	102	35	115	396	507	5	--------	512
1908	[3] 343	109	151	818	1,421	258	6	--------	264
1918	[3] 100	1	2	369	472	175	--------	--------	175
1923	245	31	1	122	399	180	--------	--------	180
1927	99	7	1	163	270	160	--------	--------	160
1928	237	5	6	202	450	77	--------	16	93

Year	Flounders					Menhaden			
	North Carolina	South Carolina	Georgia	Florida (east coast)	Total	North Carolina	Georgia	Florida (east coast)	Total
1887	--------	--------	--------	(1)	--------	14,756	--------	--------	--------
1888	--------	--------	--------	(1)	--------	13,844	--------	--------	--------
1889	48	--------	--------	--------	48	8,753	--------	8	8,761
1890	49	--------	--------	--------	49	12,410	--------	--------	12,410
1897	174	--------	6	--------	180	11,310	--------	--------	11,310
1902	262	2	3	49	316	18,862	--------	--------	18,862
1908	403	5	7	99	514	57,412	--------	--------	57,412
1918	91	16	11	13	131	179,911	29,485	48,363	257,759
1923	333	28	--------	6	367	63,290	26,973	57,918	148,181
1927	349	14	--------	21	384	98,987	34,102	24,876	157,965
1928	455	21	16	47	539	99,302	30,030	21,512	150,844

[1] Statistics not available.

[2] Includes harvestfish.

[3] Includes some black drum.

NOTE.—Prior to 1889 some of the above species were often included under the heading "Miscellaneous fish" or "All other fish"; therefore, the total for certain species is not shown for certain years of this period.

Fisheries of the South Atlantic States, 1880 to 1928—Continued

CATCH OF CERTAIN SPECIES: BY STATES—Continued

[Expressed in thousands of pounds; that is, 000 omitted]

Year	Mullet					Pompano			
	North Carolina	South Carolina	Georgia	Florida (east coast)	Total	North Carolina	South Carolina	Florida (east coast)	Total
1880	3, 368	232	106	663	4, 369	--------	--------	--------	--------
1887	2, 461	400	47	(1)	--------	--------	--------	(1)	--------
1888	2, 248	341	48	(1)	--------	--------	--------	(1)	--------
1889	4, 252	464	57	1, 216	5, 989	8	--------	12	2
1890	4, 890	553	53	1, 567	7, 063	10	--------	30	4
1897	4, 716	61	56	2, 449	7, 282	53	5	196	25
1902	8, 429	139	126	7, 341	16, 035	20	5	265	29
1908	6, 013	708	194	8, 573	15, 488	11	4	276	29
1918	1, 286	272	11	10, 418	11, 987	9	--------	133	14
1923	1, 933	532	4	6, 198	8, 667	50	--------	61	11
1927	4, 325	461	9	6, 583	11, 378	13	6	219	23
1928	2, 502	291	57	6, 527	9, 377	8	--------	284	29

Year	Sea bass					Shad				
	North Carolina	South Carolina	Georgia	Florida (east coast)	Total	North Carolina	South Carolina	Georgia	Florida (east coast)	Total
1880	--------	--------	--------	--------	--------	3, 221	208	252	252	3, 93
1887	15	889	4	(1)	--------	4, 783	366	255	(1)	--------
1888	15	910	7	(1)	--------	5, 725	433	263	1, 448	7, 86
1889	29	886	8	11	934	5, 403	577	356	2, 051	8, 38
1890	33	826	10	10	879	5, 815	563	400	2, 654	9, 43
1897	189	632	--------	6	827	8, 963	506	788	1, 011	11, 26
1902	57	710	76	30	873	6, 567	434	1, 029	1, 819	9, 84
1908	72	491	233	110	906	3, 942	464	1, 333	2, 833	8, 57
1918	112	132	293	41	578	1, 657	167	101	964	2, 88
1923	102	218	104	4	428	2, 370	184	134	503	3, 19
1927	316	125	48	32	521	2, 387	182	187	348	3, 10
1928	424	271	85	38	818	3, 118	320	317	691	4, 44

Year	Sheepshead					Spanish mackerel				
	North Carolina	South Carolina	Georgia	Florida (east coast)	Total	North Carolina	South Carolina	Georgia	Florida (east coast)	Total
1887	202	101	8	(1)	--------	--------	--------	--------	(1)	--------
1888	212	111	8	(1)	--------	--------	--------	--------	(1)	--------
1889	187	39	5	264	495	82	--------	--------	--------	8
1890	202	39	5	274	520	100	--------	--------	--------	10
1897	271	36	25	390	722	331	10	18	3	36
1902	155	27	50	404	636	354	--------	--------	659	1, 01
1908	249	20	64	1, 098	1, 431	457	--------	--------	1, 228	1, 68
1918	26	2	--------	104	132	149	--------	--------	3, 062	3, 21
1923	52	1	--------	32	85	183	--------	--------	2, 469	2, 65
1927	23	--------	--------	54	77	200	--------	--------	1, 921	2, 12
1928	22	--------	1	76	99	176	--------	--------	2, 074	2, 25

[1] Statistics not available.

NOTE.—Prior to 1889 some of the above species were often included under the heading "Miscellaneou fish" or "All other fish"; therefore, the total for certain species is not shown for certain years of this perio

Fisheries of the South Atlantic States, 1880 to 1928—Continued

CATCH OF CERTAIN SPECIES: BY STATES—Continued

[Expressed in thousands of pounds; that is, 000 omitted]

Year	Spot					Squeteagues or "sea trout"				
	North Carolina	South Carolina	Georgia	Florida (east coast)	Total	North Carolina	South Carolina	Georgia	Florida (east coast)	Total
1880	--------	--------	--------	--------	--------	1, 120	470	122	115	1, 827
1887	[4]88	[4]52	[4]11	(1)	--------	909	217	67	(1)	--------
1888	[4]90	[4]57	[4]10	(1)	--------	946	207	67	(1)	--------
1889	441	[4]46	[4]14	[4]26	--------	1, 971	116	130	243	2, 460
1890	499	[4]42	[4]14	[4]24	--------	2, 131	103	144	235	2, 613
1897	917	[4]49	--------	[4]23	--------	3, 174	80	55	516	3, 825
1902	977	22	--------	32	1, 031	3, 984	86	83	899	5, 052
1908	852	66	--------	130	1, 048	4, 648	183	140	3, 657	8, 628
1918	1, 258	75	1	393	1, 727	3, 361	59	40	1, 645	5, 105
1923	1, 790	132	1	72	1, 995	3, 984	70	5	1, 198	5, 257
1927	1, 959	216	1	421	2, 597	4, 534	54	18	869	5, 475
1928	2, 954	90	8	228	3, 280	5, 127	20	18	1, 238	6, 403

Year	Striped bass					Sturgeon				
	North Carolina	South Carolina	Georgia	Florida (east coast)	Total	North Carolina	South Carolina	Georgia	Florida (east coast)	Total
1880	--------	--------	--------	--------	--------	437	261	354	3	1, 055
1887	506	4	11	--------	--------	238	182	192	(1)	--------
1888	567	3	11	--------	--------	270	251	174	(1)	--------
1889	536	11	13	--------	560	228	[5]285	[5]212	43	768
1890	574	12	9	--------	595	175	[5]216	[5]84	30	505
1897	845	10	9	--------	864	[5]404	[5]481	[5]157	--------	1, 042
1902	1, 175	10	2	--------	1, 187	145	94	--------	--------	239
1908	510	5	9	9	533	62	--------	100	55	217
1918	287	--------	--------	--------	287	8	118	39	--------	165
1923	477	--------	--------	--------	477	19	50	32	--------	101
1927	738	--------	5	2	745	27	13	3	--------	43
1928	507	--------	1	--------	508	8	23	2	--------	33

Year	Crabs					Shrimp				
	North Carolina	South Carolina	Georgia	Florida (east coast)	Total	North Carolina	South Carolina	Georgia	Florida (east coast)	Total
1880	11	42	7	--------	--------	63	630	56	72	821
1887	47	76	45	(1)	--------	120	338	185	(1)	--------
1888	47	69	44	(1)	--------	124	359	191	(1)	--------
1889	50	86	43	3	182	135	380	150	78	743
1890	47	93	48	4	192	144	372	162	66	744
1897	1, 027	110	75	4	1, 216	146	374	68	39	627
1902	203	96	80	6	385	84	370	344	3, 013	3, 811
1908	390	33	196	146	765	371	452	528	4, 346	5, 697
1918	379	18	8	52	457	940	55	5, 793	8, 868	15, 656
1923	514	9	120	72	715	1, 658	355	10, 668	11, 024	23, 705
1927	1, 225	10	59	128	1, 422	1, 276	1, 657	12, 280	14, 779	29, 992
1928	1, 476	2	569	169	2, 216	845	431	9, 526	22, 507	33, 309

[1] Statistics not available. [4] Includes croakers. [5] Includes caviar.

NOTE.—Prior to 1889 some of the above species were often included under the heading "Miscellaneous ish" or "All other fish"; therefore, the total for certain species is not shown for certain years of this period.

Fisheries of the South Atlantic States, 1880 to 1928—Continued

CATCH OF CERTAIN SPECIES: BY STATES—Continued

[Expressed in thousands of pounds; that is, 000 omitted]

Year	Clams, hard					Oysters, market					Scallops Nort Caro lina
	North Carolina	South Carolina	Georgia	Florida (east coast)	Total	North Carolina	South Carolina	Georgia	Florida (east coast)	Total	
1880	310	48	24	5	387	1,190	350	490	140	2,170	------
1887	78	--------	--------	(1)	--------	1,491	264	771	(1)	--------	
1888	148	--------	--------	(1)	--------	1,433	282	844	(1)	--------	
1889	155	--------	3	5	163	7,011	305	1,142	436	8,894	
1890	226	--------	4	6	236	5,651	442	1,570	681	8,344	
1897	938	185	3	5	1,131	6,012	1,504	3,406	363	11,285	1
1902	1,175	225	10	5	1,415	7,160	4,828	8,568	2,163	22,719	
1908	726	76	43	57	902	5,275	10,941	10,053	3,704	29,973	(1)
1918	198	1	--------	2	201	1,519	2,784	1,110	459	5,872	4
1923	264	86	--------	5	355	3,917	5,032	1,720	500	11,169	5
1927	315	47	1	10	373	3,041	5,440	757	782	10,020	8
1928	324	26	1	26	377	2,900	5,798	1,048	679	10,425	1,3

[1] Statistics not available.

NOTE.—Prior to 1889 some of the above species were often included undert he heading "Miscellaneo fish" or "All other fish"; therefore, the total for certain species is not shown for certain years of this perio

FISHERIES OF FLORIDA[6]

Commercial fisheries are prosecuted along the entire length of th Florida seacoast from Fernandina south to Key West and from the north and west to Pensacola, and also in Lake Okeechobee. Th fisheries and industries related to the fisheries of Florida employe 10,852 persons during 1928. This is an increase of 6 per cent ove the number employed during 1927. Of the total, 9,098 were fisher men, 48 were employed aboard transporting vessels, 1,277 in the whole sale trade, and 429 in the prepared-products and by-product industries. The catch amounted to 131,838,020 pounds, valued a $6,250,360. This represents a decrease of 5 per cent in the catc and 3 per cent in the value of the catch as compared with the catc and the value of the catch for 1927. Of the total catch, 100,700,20 pounds, valued at $4,034,552, were fish; 30,583,459 pounds, value at $1,364,446, were shellfish and miscellaneous products; and 554,35 pounds, valued at $851,362, were sponges. Of the total, 51 pe cent were taken along the east coast, 46 per cent along the west coas and 3 per cent in Lake Okeechobee.

OPERATING UNITS

The catch of fishery products during 1928 was made by 9,09 fishermen, who used 108 motor vessels and 13 sailing vessels wit a combined capacity of 3,915 net tons; 3,248 motor boats; and 4,24 other small boats. The fishing gear consisted of 6 menhaden purs seines, having a combined length of 1,760 yards; 3 other purse seine having a combined length of 900 yards; 276 common haul seines hav ing a combined length of 148,745 yards; 2,797 drift gill nets, having combined area of 3,348,336 square yards; 18 set gill nets, having ombined area of 12,300 square yards; 257 trammel nets having an rea of 216,810 square yards; 2,260 hand lines having 3,216 hooks; ,079 troll lines having 1,905 hooks; 369 trot lines having 62,100 ooks; and 2 trot lines having 1,000 baits or snoods. There were also 1 pound nets; 240 stop nets having a combined area of 39,750 square ards; 12,262 fyke nets; 103 dip nets; 34 cast nets; 475 otter trawls sed for shrimp, having an aggregate width at mouth of 8,048 yards; 5 eel pots; 1,510 crab pots; 2,328 sea crawfish pots; 76 spears; 2 team clam dredges; 672 tongs; 18 rakes; 77 forks; 247 sponge hooks; 7 sea crawfish hooks; 44 stone crab hooks; and 52 diving outfits.

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[6] Detailed statistics of the fisheries along the east coast of Florida are discussed separately on pp. 900 to 9 those for the fisheries along the west coast pp. 928 to 941; while those for Lake Okeechobee, as well as tho of the Florida sponge fishery, are discussed in this section. Statistics for these districts are combined this section for the convenience of those readers who are interested in statistics covering the entire State

CATCH BY SPECIES

Based on the value to the fishermen, mullet, with a catch of 0,016,056 pounds, valued at $1,252,605, was the most important of he fish taken. Red snapper was next in importance with a catch of ,938,253 pounds, valued at $642,856. Squeteague or "sea trout" as third, with a catch of 3,920,946 pounds, valued at $362,804. ther fishes of importance were Spanish mackerel, 5,302,199 pounds, alued at $349,893; catfish and bullheads, 5,821,635 pounds, valued t $239,636; kingfish or "king mackerel," 3,948,567 pounds, valued t $205,397; and pompano, 702,955 pounds, valued at $162,097. ther species of fish were valued individually at less than $150,000. mong the shellfish, shrimp was the most important in value with a atch of 25,384,360 pounds, valued at $980,100. Oysters were next n importance with a catch of 3,537,723 pounds of meats, valued at 254,753. Among the sponges, sheepswool were most important, ith a catch of 345,586 pounds, valued at $778,497. The yellow ponge ranked next in importance, with a catch of 87,206 pounds, alued at $38,323.

CATCH BY GEAR

On the east coast, where 67,040,079 pounds of fishery products ere taken, otter trawls accounted for 34 per cent of the catch; purse eines, 33 per cent; gill nets, 17 per cent; and lines, 7 per cent. The atch by otter trawls was principally shrimp; that by purse seines menhaden; that by gill nets mainly mullet, Spanish mackerel, and squeteague or "sea trout"; and that by lines chiefly kingfish or "king mackerel," and catfish and bullheads.

On the west coast where 61,120,555 pounds were taken, gill nets accounted for 36 per cent of the catch; lines, 24 per cent; haul seines, 12 per cent; and purse seines, 9 per cent. The catch by gill nets consisted principally of mullet, Spanish mackerel, and squeteague or "sea trout"; that by lines chiefly red snapper, groupers and kingfish or "king mackerel"; that by haul seines mainly mullet and Spanish mackerel; and that by purse seines, menhaden.

In Lake Okeechobee, where 3,677,386 pounds were taken, haul seines accounted for 89 per cent of the catch; fyke nets, 9 per cent; and lines, 2 per cent. The catch by haul seines was principally catfish and bullheads; that by fyke nets chiefly black bass and crappie; and that by lines mainly catfish and bullheads.

Considering the fisheries of the State as a whole, five types of gear accounted for 90 per cent of the catch. Listed in order of their importance these were gill nets, which accounted for 25 per cent; purse seines, 21 per cent; otter trawls, 20 per cent; lines, 15 per cent; and haul seines, 9 per cent. The catch by gill nets consisted principall of mullet, Spanish mackerel, and squeteague or "sea trout"; that b purse seines almost exclusively menhaden; that by otter trawl chiefly shrimp; that by lines mainly red snapper, groupers, and king fish or "king mackerel"; and that by haul seines principally mullet Spanish mackerel, catfish, and bullheads.

FISHERIES BY COUNTIES

Based on the selling value as landed, the fisheries of Pinellas Count were most important during 1928. During the year 5,794,74 pounds of fishery products, valued at $1,071,016, were taken. Sponge which are taken near Tarpon Springs, constituted the most importan fishery item in this county. Mullet also is an important product Escambia County was second, with a catch of 7,347,248 pounds valued at $487,926. Red snappers, which are taken in the vesse fisheries from the banks of the Gulf of Mexico, contributed to making this county one of the most important in the State. Nassau Count was third with a catch of 33,567,523 pounds, valued at $483,924 Shrimp, which are taken in the waters near Fernandina and landed at that point, are of great importance in the fisheries of this county The catch of menhaden which are utilized in the reduction plants near Fernandina are also of great importance. The fisheries o Franklin County ranked fourth in importance, with a catch of 7,681,639 pounds, valued at $414,658. Apalachicola is the center of the fisheries in this county, and oysters and shrimp were the most important products. Other counties where the catch was valued at over $250,000 were St. Johns, Charlotte, and Bay.

Fisheries of Florida, 1928

SUMMARY OF CATCH

Products	East coast		West coast		Lake Okeechobee		Total	
	Pounds	*Value*	*Pounds*	*Value*	*Pounds*	*Value*	*Pounds*	*Value*
Fish	43, 284, 990	$1, 270, 369	53, 743, 827	$2, 595, 200	3, 671, 386	$168, 983	100, 700, 203	$4, 034, 552
Shellfish, etc	23, 755, 089	944, 470	7, 376, 728	1, 271, 278	6, 000	60	31, 137, 817	2, 215, 808
Total	67, 040, 079	2, 214, 839	61, 120, 555	3, 866, 478	3, 677, 386	169, 043	131, 838, 020	6, 250, 360

OPERATING UNITS: BY DISTRICTS

Items	East coast	West coast	Lake Okeechobee	Total
Fishermen:	*Number*	*Number*	*Number*	*Number*
On vessels	190	764		954
On boats and shore—				
Regular	2, 555	4, 790	276	7, 621
Casual	281	242		523
Total	3, 026	5, 796	276	9, 098
Vessels:				
Motor	25	83		108
Net tonnage	469	2, 665		3, 134
Sail		13		13
Net tonnage		781		781
Total vessels	25	96		121
Total net tonnage	469	3, 446		3,915
Boats:				
Motor	1, 202	1, 960	86	3, 248
Other	1, 131	2, 856	256	4, 242
Accessory boats	14	6		30

Fisheries of Florida, 1928—Continued

OPERATING UNITS: BY DISTRICTS—Continued

Items	East coast	West coast	Lake Okeechobee	Total
pparatus:	*Number*	*Number*	*Number*	*Number*
Purse seines—				
Menhaden	4	2	--------	6
Yards	1, 200	560	--------	1, 760
Other	3	--------	--------	3
Yards	900	--------	--------	900
Haul seines—				
Common	78	164	34	276
Yards	54, 130	63, 865	30, 750	148, 745
Gill nets—				
Drift	944	1, 853	--------	2, 797
Square yards	1, 507, 500	1, 840, 836	--------	3, 348, 336
Set	6	12	--------	18
Square yards	7, 200	5, 100	--------	12, 300
Trammel nets	3	254	--------	257
Square yards	1, 350	215, 460	--------	216, 810
Lines—				
Hand	539	1, 716	5	2, 260
Hooks	569	2, 642	5	3, 216
Troll	753	326	--------	1, 079
Hooks	1, 427	478	--------	1, 905
Trot with hooks	356	6	7	369
Hooks	58, 600	1, 000	2, 500	62, 100
Trot with baits or snoods	2	--------	--------	2
Baits or snoods	1, 000	--------	--------	1, 000
Pound nets	21	10	--------	31
Stop nets	--------	240	--------	240
Square yards	--------	39, 750	--------	39, 750
Fyke nets	22	240	12, 400	12, 662
Dip nets, common	46	57	--------	103
Cast nets	19	15	--------	34
Otter trawls, shrimp	353	122	--------	475
Yards at mouth	6, 673	1, 375	--------	8, 048
Pots—				
Eel	65	--------	--------	65
Crab	--------	1, 510	--------	1, 510
Sea crawfish	1, 998	330	--------	2, 328
Spears	10	66	--------	76
Dredges, clam	--------	2	--------	2
Tongs	94	578	--------	672
Rakes	--------	18	--------	18
Forks	62	15	--------	77
Hooks—				
Sponge	--------	247	--------	247
Sea crawfish	--------	57	--------	57
Stone crab	44	--------	--------	44
Diving apparatus	--------	52	--------	52

CATCH: BY DISTRICTS

Species	East coast		West coast		Lake Okeechobee		Total	
FISH	*Pounds*	*Value*	*Pounds*	*Value*	*Pounds*	*Value*	*Pounds*	*Value*
Alewives	370, 128	$2, 935	--------	--------	--------	--------	370, 128	$2, 935
Amberjack	11, 847	530	17, 342	$584	--------	--------	29, 189	1, 114
Barracuda	12, 000	360	4, 000	120	--------	--------	16, 000	480
Black bass	140, 616	16, 241	2, 200	220	424, 870	$41, 591	567, 686	58, 052
Bluefish	599, 020	68, 454	390, 270	27, 502	--------	--------	989, 290	95, 956
Blue runner or hardtail	123, 324	4, 177	418, 892	11, 541	--------	--------	542, 216	15, 718
Bonito	2, 000	300	9, 036	324	--------	--------	11, 036	624
Butterfish	1, 440	43	20, 702	828	--------	--------	22, 142	871
Cabio or crab eater	200	10	17, 677	619	--------	--------	17, 877	629
Catfish and bullheads	3, 203, 091	130, 601	99, 005	3, 454	2, 519, 539	105, 581	5, 821, 635	239, 636
Cero	5, 000	250	12, 000	530	--------	--------	17, 000	780
Cigarfish	--------	--------	116, 500	3, 215	--------	--------	116, 500	3, 215
Crappie	387, 457	27, 212	--------	--------	630, 485	18, 916	1, 017, 942	46, 128
Crevalle	213, 736	6, 483	76, 498	2, 560	--------	--------	290, 234	9, 043
Croaker	43, 839	1, 458	42, 004	1, 593	--------	--------	85, 843	3, 051
Dolphin	6, 000	600	139	14	--------	--------	6, 139	614
Drum, black	125, 450	3, 556	39, 321	1, 183	--------	--------	164, 771	4, 739
Drum, red, or redfish	202, 024	9, 626	889, 338	33, 903	--------	--------	1, 091, 362	43, 529
Eels	16, 013	646	--------	--------	--------	--------	16, 013	646
Flounders	46, 557	1, 573	99, 042	5, 935	--------	--------	145, 599	7, 508
Groupers	146, 966	6, 402	3, 971, 341	121, 959	--------	--------	4, 118, 307	128, 361
Grunts	38, 643	1, 531	35, 885	1, 213	--------	--------	74, 528	2, 744
Hickory shad	35, 480	1, 419	--------	--------	--------	--------	35, 480	1, 419
Hogfish	3, 000	90	1, 500	45	--------	--------	4, 500	135
Jewfish	13, 900	401	49, 477	1, 853	--------	--------	63, 377	2, 254

Fisheries of Florida, 1928—Continued

CATCH: BY DISTRICTS—Continued

Species	East coast		West coast		Lake Okeechobee		Total	
	Pounds	*Value*	*Pounds*	*Value*	*Pounds*	*Value*	*Pounds*	*Valu*
FISH—continued								
Kingfish or “king mackerel”	2,645,656	$136,717	1,302,911	$68,680			3,948,567	$205,
King whiting or “kingfish”	376,490	14,142	70,164	2,509			446,654	16,6
Ladyfish	3,000	60	358,889	9,493			361,889	9,5
Menhaden	21,511,600	40,330	5,857,000	39,149			27,368,600	79,4
Mojarro	477,072	21,471	225,260	7,080			702,332	28,5
Moonfish	192	5	701	21			893	
Mullet	6,526,794	254,688	23,489,262	997,917			30,016,056	1,252,6
Muttonfish	114,900	10,182	34,600	3,460			149,500	13,6
Permit	3,895	120	33,463	1,086			37,358	1,2
Pigfish	124,078	3,922	55,144	1,982			179,222	5,9
Pike	2,000	100					2,000	1
Pinfish or sailors choice	179,301	5,024	22,871	862			202,172	5,8
Pompano	283,889	78,374	419,066	83,723			702,955	162,0
Porgies	22,000	760	97,324	2,955			119,324	3,7
Porkfish			600	18			600	
Sawfish			45,000	375			45,000	3
Sea bass	38,169	4,213	15,560	1,156			53,729	5,3
Shad	690,932	104,436					690,932	104,4
Sharks			226,500	2,552			226,500	2,5
Sheepshead, salt-water	75,744	3,514	499,322	18,963			575,066	22,4
Snapper:								
Mangrove	89,505	4,870	185,661	7,334			275,166	12,2
Red	47,050	4,629	7,891,203	638,227			7,938,253	642,8
Snook or sergeantfish	250,994	12,265	370,487	12,609			621,481	24,8
Spadefish	11,904	381	66,441	2,301			78,345	2,6
Spanish mackerel	2,074,382	135,909	3,227,817	213,984			5,302,199	349,8
Spot	228,153	7,145	108,205	3,922			336,358	11,0
Squeteagues or “sea trout”	1,238,494	118,880	2,682,452	243,924			3,920,946	362,8
Sturgeon			16,247	2,097			16,247	2,0
Sunfish	456,231	18,144			96,492	$2,895	552,723	21,0
Tang			150	4			150	
Tripletail	400	16	7,000	500			7,400	5
Turbot			200	6			200	
Yellowtail	64,434	5,174	122,158	9,116			186,592	14,2
Total	43,284,990	1,270,369	53,743,827	2,595,200	3,671,386	168,983	100,700,203	4,034,5
SHELLFISH, ETC.								
Crabs:								
Hard	134,276	7,334	6,900	731			141,176	8,0
Stone	35,000	3,850	76,940	11,836			111,940	15,6
Sea crawfish or spiny lobster	367,106	29,368	197,056	15,154			564,162	44,5
Shrimp	22,507,186	864,614	2,877,174	115,486			25,384,360	980,1
Clams, hard	25,840	3,092	750,728	48,993			776,568	52,0
Oysters, market, public	577,787	30,141	2,856,476	218,372			3,434,263	248,5
Oysters, market, private	101,360	5,940	2,100	300			103,460	6,2
Scallops:								
Bay			14,100	5,000			14,100	5,0
Sea			2,100	1,050			2,100	1,0
Terrapin			461	115			461	1
Turtles	6,534	131	22,735	1,756	6,000	60	35,269	1,9
Sponges:								
Grass			108,876	27,774			108,876	27,7
Sheepswool			345,586	778,497			345,586	778,4
Wire			12,690	6,768			12,690	6,7
Yellow			87,206	38,323			87,206	38,3
Conchs			15,600	1,123			15,600	1,1
Total	23,755,089	944,470	7,376,728	1,271,278	6,000	60	31,137,817	2,215,8

PRODUCTION OF CERTAIN SHELLFISH SHOWN IN NUMBERS AND BUSHELS

Products		East coast		West coast		Total	
		Quantity	*Value*	*Quantity*	*Value*	*Quantity*	*Value*
Crabs:							
Hard	number	402,828	$7,334	20,700	$731	423,528	$8,0
Stone	do	46,667	3,850	102,587	11,836	149,254	15,6
Clams, hard	bushels	3,230	3,092	93,841	48,993	97,071	52,0
Oysters, market, public	do	82,541	30,141	408,068	218,372	490,609	248,5
Oysters, market, private	do	14,480	5,940	300	300	14,780	6,2
Scallops:							
Bay	do			2,350	5,000	2,350	5,0
Sea	do			350	1,050	350	1,0

INDUSTRIES RELATED TO THE FISHERIES[7]

Transporting trade.—During 1928 there were 48 persons in Florida ngaged in transporting the products from fishing grounds to the arket. In this trade 20 motor vessels, having total capacity of 311 et tons, were operated.

Wholesale trade.—In 1928 there were 218 wholesale establishments Florida engaged chiefly in handling fresh and frozen products. hese establishments employed 1,277 persons, who received $908,280 salaries and wages. Of the total number, 110 were on the west oast, 101 on the east coast, and 7 on Lake Okeechobee.

Prepared products and by-products.—There were 18 establishments Florida during 1928 engaged in canning and curing fishery prodcts or in manufacturing fishery by-products. These employed 29 persons who received $331,568 in salaries and wages. The prodcts manufactured were valued at $1,721,699. These products onsisted principally of canned shrimp and oysters, and menhaden roducts. There was also a production of canned turtle and clam roducts, salted mullet and mullet roe, oyster-shell products, ickled shrimp, sawfish fins, and shark hides and oil. In addition, 28,554 pounds of salted mullet and mullet roe, valued at $25,467, ere prepared by the fishermen.

Industries related to the fisheries of Florida, 1928

Items	East coast	West coast	Lake Okeechobee	Total
ransporting:				
Persons engaged	1	47		48
Vessels, motor	1	19		20
Net tonnage	16	295		311
holesale trade:				
Establishments	101	110	7	218
Persons engaged	582	667	28	1, 277
Salaries and wages paid	$360, 562	$528, 088	$19, 630	$908, 280
repared products and by-products industries:				
Establishments	8	10		18
Persons engaged	197	232		429
Salaries and wages paid	$184, 547	$147, 021		$331, 568
Products	$1, 038, 089	$683, 610		$1, 721, 699
roducts prepared by fishermen		$25, 467		$25, 467

LAKE OKEECHOBEE

In 1928 there were 304 persons engaged in fisheries or in the fishery ndustries of Lake Okeechobee. This is an increase of 23 per cent ver the number of persons engaged during 1927. Of the total umber in 1928, 276 were fishermen and 28 were engaged in the holesale fishery trade. The catch amounted to 3,677,386 pounds, alued at $169,043. This represents a decrease of 16 per cent both the catch and its value, as compared with the catch and its value 1927. The catch consisted of 2,519,539 pounds of catfish and ullheads, valued at $105,581; 630,485 pounds of crappie, valued at 18,916; 424,870 pounds of black bass, valued at $41,591; 96,492 ounds of sunfish, valued at $2,895; and 6,000 pounds of turtles, alued at $60.

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[7] See pp. 909 and 940, respectively, for detailed statistics on this subject, for the east and west coasts of lorida and for Lake Okeechobee on p. 920.

OPERATING UNITS

The catch of fishery products in Lake Okeechobee was taken b 276 fishermen who used 342 motor and other fishing boats, 34 hau seines, having a total length of 30,750 yards, 12,400 fykes, 5 hand lines, and 7 trot lines.

CATCH BY GEAR

Haul seines accounted for 89 per cent of the catch; fyke nets, per cent; and lines, 2 per cent. The catch by haul seines was prin cipally catfish and bullheads, that by fyke nets chiefly black bass an crappie, and that by lines mainly catfish and bullheads.

CATCH BY COUNTIES

The catch in Lake Okeechobee was taken in three counties. Glade County accounted for 69 per cent of the catch and 72 per cent of th value of the catch; Okeechobee County, 28 per cent of the catc and 25 per cent of the value; and Palm Beach, 3 per cent of the catc and 3 per cent of the value.

INDUSTRIES RELATED TO THE FISHERIES

During 1928 no vessels were operated in the transporting trade i Lake Okeechobee nor were any prepared-products or by-product industries located there.

Wholesale trade.—There were seven wholesale establishments o the shores of Lake Okeechobee in 1928 handling fresh fishery prod ucts. These employed 28 persons, who received $19,630 in salarie and wages.

Fisheries and related industries of Lake Okeechobee, Fla., 1928

OPERATING UNITS: BY GEAR

Items	Haul seines, common	Lines		Fykes	Total, exclusiv of dupli cation
		Hand	Trot with hooks		
	Number	*Number*	*Number*	*Number*	*Numbe*
Fishermen: On boats and shore, regular	172	5	7	103	2
Boats:					
Motor	64	2	4	22	
Other	152	4	3	103	2
Apparatus:					
Number	34	5	7	12, 400	
Length, yards	30, 750				
Hooks		5	2, 500		

CATCH: BY GEAR

Species	Haul, seines, common		Lines				Fykes		Total	
			Hand		Trot with hooks					
	Pounds	*Value*	*Pounds*	*Value*	*Pounds*	*Value*	*Pounds*	*Value*	*Pounds*	*Valu*
Black bass	247, 870	$23, 991	2, 000	$200			175, 000	$17, 400	424, 870	$41, 5
Catfish and bullheads	2, 424, 995	101, 646			63, 635	$2, 650	30, 909	1, 285	2, 519, 539	105, 5
Crappie	519, 485	15, 586					111, 000	3, 330	630, 485	18, 9
Sunfish	92, 492	2, 775					4, 000	120	96, 492	2, 8
Turtles	6, 000	60							6, 000	
Total	3, 290, 842	144, 058	2, 000	200	63, 635	2, 650	320, 909	22, 135	3, 677, 386	160, 0

Fisheries and related industries of Lake Okeechobee, Fla., 1928—Continued

OPERATING UNITS: BY COUNTIES

Items	Glades	Okeechobee	Palm Beach
	Number	*Number*	*Number*
shermen: On boats and shore, regular	212	54	10
ats:			
Motor	62	20	4
Other	198	50	8
pparatus:			
Haul seines, common	20	12	2
Yards	18,750	10,200	1,800
Lines—			
Hand	5		
Hooks	5		
Trot with hooks	6	1	
Hooks	2,200	300	
Fykes	11,700	700	

CATCH: BY COUNTIES

Species	Glades		Okeechobee		Palm Beach	
	Pounds	*Value*	*Pounds*	*Value*	*Pounds*	*Value*
ack bass	373,172	$37,320	44,898	$3,591	6,800	$680
atfish and bullheads	1,734,074	71,242	705,080	31,023	80,385	3,316
rappie	357,884	10,737	234,351	7,031	38,250	1,148
nfish	50,992	1,530	42,000	1,260	3,500	105
urtles	6,000	60				
Total	2,522,122	120,889	1,026,329	42,905	128,935	5,249

WHOLESALE FISHERY TRADE

Items	Glades County	Okeechobee and Palm Beach Counties	Total
stablishments	3	4	7
ersons engaged:			
Proprietors	3	4	7
Salaried employees	3		3
Wage earners	12	6	18
aid to salaried employees	$3,980	$2,400	$6,380
aid to wage earners	8,622	4,628	13,250
Total salaries and wages	12,602	7,028	19,630

SPONGE FISHERY

In the waters along the Gulf coast of Florida is located the only ommercial sponge fishery in the United States. During 1928 this shery employed 816 fishermen, which is 6 per cent more than the umber employed during 1927. Their catch amounted to 554,358 ounds, valued at $851,362. This represents a decrease of 8 per cent n the catch and 18 per cent in the value of the catch, as compared ith the catch and its value for the previous year. The greater part f the catch consisted of sheepswool sponges, although there were onsiderable quantities of grass and yellow varieties, and a small roduction of wire sponges.

OPERATING UNITS

In making the catch the fishermen employed 4 motor vessels, 1 ailing vessel, 319 motor and other small boats, 247 sponge hooks, nd 52 diving outfits. The vessels had a combined capacity of 77 et tons.

MARKETING OF SPONGES

The greater proportion of the catch landed at Tarpon Springs i marketed through the Sponge Exchange located there. During 192 sponges to the amount of 413,198 pounds, valued at $729,918, wer handled there. This is 75 per cent of the volume of the entire Florid catch and 86 per cent of the value. Transactions are made on th exchange at auction, and bidders represent merchants in various sec tions of this and foreign countries.

Our imports of sponges in 1928, which originated almost entirely i Cuba, amounted to 933,232 pounds, valued at $1,124,297, while ou exports during the same year, which were forwarded mainly to th United Kingdom, Argentina, Canada, and France amounted to 114,91 pounds, valued at $146,520. The net consumption of sponges in 192 in the United States, after adding the volume of the imports fo domestic consumption to the domestic production and subtractin the exports, amounted to 1,372,673 pounds, valued at $1,829,139.

Sponges are utilized in the arts and industries, such as in applying glaze to pottery, for the toilet, and for cleaning automobiles and othe vehicles. Some also are used in surgical work.

In 1929 the quantity of sponges sold on the exchange at Tarpo Springs was 378,514 pounds, valued at $706,645. This is a decreas of 8 per cent in quantity and 3 per cent in value as compared with th quantity and value of the transactions on the exchange during 192 It is estimated that the value of sponges sold outside the exchang during 1929 amounted to about $75,000. Of the total quantity sol on the exchange in 1929, 206,338 pounds, valued at $606,844, wer large wool; 32,635 pounds, valued at $48,952, were small wool 68,776 pounds, valued at $32,096, were yellow; 59,705 pounds, value at $14,329, were grass; and 11,060 pounds, valued at $4,424, wer wire.

Sponge fishery of Florida, 1928

OPERATING UNITS: BY GEAR

Items	Sponge hooks	Diving outfits	Total	Items	Sponge hooks	Diving outfits	Tota
Fishermen:	*Number*	*Number*	*Number*	Sail:	*Number*	*Number*	*Numb*
On vessels	44	--------	44	5 to 10 tons	1	--------	
On boats and shore, regular	368	404	772	11 to 20 tons	1	--------	
Total	412	404	816	Total	2	--------	
Vessels:				Net tonnage	25	--------	
Motor—				Total vessels	6	--------	
5 to 10 tons	1	--------	1	Total net tonnage	77	--------	
11 to 20 tons	2	--------	2	Boats:			
21 to 30 tons	1	--------	1	Motor	97	52	1
Total	4	--------	4	Other	170	--------	1
Net tonnage	52	--------	52	Apparatus	247	52	--------

CATCH: BY GEAR

Sponges	Sponge hooks		Diving outfits		Total	
	Pounds	*Value*	*Pounds*	*Value*	*Pounds*	*Value*
Sheepswool	94,627	$136,505	250,959	$641,992	345,586	$778,4
Yellow	26,312	9,956	60,894	28,367	87,206	38,3
Grass	53,939	12,391	54,937	15,383	108,876	27,7
Wire	1,269	677	11,421	6,091	12,690	6,7
Total	176,147	159,529	378,211	691,833	554,358	851,3

Sponges sold at the exchange, Tarpon Springs, Fla., 1926 to 1929, and the 5-year average 1921–1925

Year	Large wool		Small wool		Yellow	
	Pounds	*Value*	*Pounds*	*Value*	*Pounds*	*Value*
921-1925 (average)	234, 568	$574, 465	55, 309	$49, 663	95, 143	$40, 246
926	235, 143	592, 367	26, 073	36, 502	55, 205	22, 682
927	252, 463	752, 435	35, 413	61, 973	65, 429	32, 714
928	232, 208	623, 776	33, 744	50, 616	61, 358	28, 633
929	206, 338	606, 844	32, 635	48, 952	68, 776	32, 096

Year	Grass		Wire		Total	
	Pounds	*Value*	*Pounds*	*Value*	*Pounds*	*Value*
921-1925 (average)	56, 586	$11, 931	11, 084	$4, 381	452, 690	$680, 686
926	49, 233	13, 441	2, 091	1, 101	367, 745	666, 093
927	50, 495	14, 139	10, 617	4, 249	414, 417	865, 510
928	74, 698	20, 925	11, 190	5, 968	413, 198	729, 918
929	59, 705	14, 329	11, 060	4, 424	378, 514	706, 645

FISHERIES OF THE GULF STATES, 1928

During 1928 the catch of fishery products in the Gulf States exceeded that in any year for which there are records, except that in 1927. These fisheries gave employment to 16,356 fishermen or 8 per cent more than in 1927. Of the total number of fishermen employed during 1928, 2,400 regular fishermen were engaged on vessels, and 13,033 regular and 923 casual fishermen were employed in the shore and boat fisheries. Their catch amounted to 191,007,176 pounds, valued at $9,866,263. This is a decrease of 2 per cent in the catch and 1 per cent in the value of the catch as compared with the quantity and its value for 1927. Of the total catch in 1928, 67,704,097 pounds, valued at $3,673,124, were fish, and 123,303,079 pounds, valued at $6,193,139, were shellfish and miscellaneous products.

Based on the value to the fishermen, shrimp with a production of 82,169,863 pounds, valued at $3,092,417, was the most important product. Oysters were second with a production of 34,942,614 pounds of meats, valued at $1,943,239. Other products of importance were mullet, 26,447,649 pounds, valued at $1,111,921; red snapper, 10,392,215 pounds, valued at $860,430; sponges, 554,358 pounds, valued at $851,362; and squeteagues or "sea trout," 5,339,636 pounds, valued at $564,433. Other products were valued individually at less than $300,000.

The industries related to the fisheries of the Gulf States gave employment to 4,528 persons, of whom 85 were engaged in transporting fishery products, 1,768 were in the wholesale trade and received $1,319,912 in salaries and wages, and 2,675 were in the prepared-products and by-products trade and received $1,567,748 in salaries and wages. There were 250 establishments in the wholesale fish trade handling primary products and 97 establishments were in the prepared-products and by-products trade. The latter manufactured products valued at $8,131,857, consisting principally of canned shrimp and oysters. In addition, individual fishermen in the Gulf States prepared fishery products, valued at $30,910. Most of these products were salted mullet and salted mullet roe.

Fisheries of the Gulf States, 1928

SUMMARY OF CATCH

Products	Florida (west coast)		Alabama		Mississippi	
	Pounds	*Value*	*Pounds*	*Value*	*Pounds*	*Value*
Fish	53, 743, 827	$2, 595, 200	4, 170, 403	$251, 350	2, 138, 670	$133, 82
Shellfish, etc	7, 376, 728	1, 271, 278	10, 296, 077	335, 445	28, 561, 999	926, 240
Total	61, 120, 555	3, 866, 478	14, 466, 480	586, 795	30, 700, 669	1, 060, 06

Products	Louisiana		Texas		Total	
	Pounds	*Value*	*Pounds*	*Value*	*Pounds*	*Value*
Fish	2, 322, 007	$220, 890	5, 329, 190	$471, 858	67, 704, 097	$3, 673, 124
Shellfish, etc	67, 184, 972	3, 256, 976	9, 883, 303	403, 200	123, 303, 079	6, 193, 139
Total	69, 506, 979	3, 477, 866	15, 212, 493	875, 058	191, 007, 176	9, 866, 263

OPERATING UNITS: BY STATES

Items	Florida (west coast)	Alabama	Mississippi	Louisiana	Texas	Total
Fishermen:	*Number*	*Number*	*Number*	*Number*	*Number*	*Number*
On vessels	764	202	753	506	175	2, 400
On boats and shore:						
Regular	4, 790	610	1, 443	4, 571	1, 619	13, 033
Casual	242	46	7	75	553	923
Total	5, 796	858	2, 203	5, 152	2, 347	16, 356
Vessels:						
Motor	83	44	97	185	45	454
Net tonnage	2, 665	487	1, 105	1, 360	470	6, 087
Sail	13		44	3	4	64
Net tonnage	781		747	30	130	1, 688
Total vessels	96	44	141	188	49	518
Total net tonnage	3, 446	487	1, 852	1, 390	600	7, 775
Boats:						
Motor	1, 960	260	553	1, 542	569	4, 884
Other	2, 856	271	526	1, 167	832	5, 652
Accessory	6					6
Apparatus:						
Purse seines, menhaden	2					2
Yards	560					560
Haul seines—						
Common	164	15	27	292	94	592
Yards	63, 865	5, 200	6, 700	56, 665	18, 686	151, 116
Long					92	92
Yards					29, 332	29, 332
Gill nets—						
Drift	1, 853					1, 853
Square yards	1, 840, 836					1, 840, 836
Set	12	32			541	585
Square yards	5, 100	5, 400			98, 496	108, 996
Trammel nets	254	136	86	103	108	687
Square yards	215, 460	40, 800	27, 396	26, 299	42, 078	352, 033
Lines—						
Hand	1, 716	160	105	342	799	3, 122
Hooks	2, 642	302	121	347	898	4, 310
Trot with hooks	6	118			276	400
Hooks	1, 000	11, 500			43, 400	55, 900
Trot with baits or snoods		17	105	293	36	451
Baits or snoods		4, 400	35, 588	71, 350	9, 280	120, 618
Troll	326					326
Hooks	478					478
Pound nets	10					10
Stop nets	240					240
Square yards	39, 750					39, 750
Fyke nets	240	96				336
Dip nets—						
Common	57		60		30	147
Drop			400	11, 340	200	11, 940
Cast nets	15		35		9	59
Otter trawls, shrimp	122	178	470	1, 151	262	2, 183
Yards at mouth	1, 375	2, 268	5, 697	14, 717	3, 909	27, 966

Fisheries of the Gulf States, 1928—Continued

OPERATING UNITS: BY STATES—Continued

Items	Florida (west coast)	Alabama	Mississippi	Louisiana	Texas	Total
Apparatus—Continued.						
Pots—	*Number*	*Number*	*Number*	*Number*	*Number*	*Number*
Crab	1,510	-----	-----	-----	-----	1,510
Crawfish	330	-----	-----	-----	-----	330
Spears	66	77	118	-----	165	426
Dredges—						
Clam	2	-----	-----	-----	-----	2
Oyster	-----	-----	266	86	52	404
Yards at mouth	-----	-----	327	90	52	469
Tongs	578	245	570	611	407	2,411
Rakes	18	-----	-----	-----	-----	18
Forks	15	-----	-----	-----	-----	15
Hooks—						
Sponge	247	-----	-----	-----	-----	247
Sea crawfish	57	-----	-----	-----	-----	57
Diving apparatus	52	-----	-----	-----	-----	52

CATCH: BY STATES

Species	Florida (west coast)		Alabama		Mississippi	
	Pounds	*Value*	*Pounds*	*Value*	*Pounds*	*Value*
FISH						
Amberjack	17,342	$584	-----	-----	-----	-----
Barracuda	4,000	120	-----	-----	-----	-----
Black bass	2,200	220	1,067	$127	-----	-----
Bluefish	390,270	27,502	31,464	2,088	26,663	$1,554
Blue runner or hardtail	418,892	11,541	22,080	882	4,000	120
Bonito	9,036	324	-----	-----	-----	-----
Buffalofish	-----	-----	37,686	1,507	-----	-----
Butterfish	20,702	828	-----	-----	-----	-----
Cabio or crab eater	17,677	619	-----	-----	4,950	159
Catfish and bull heads	99,005	3,454	111,057	6,538	90,584	3,674
Cero	12,000	530	-----	-----	-----	-----
Cigarfish	116,500	3,215	-----	-----	-----	-----
Crevalle	76,498	2,560	5,800	173	2,300	71
Croaker	42,004	1,593	46,328	1,457	56,340	2,332
Dolphin	139	14	-----	-----	-----	-----
Drum, black	39,321	1,183	7,703	322	62,553	2,715
Drum, red, or redfish	889,338	33,903	49,407	3.958	207,988	18,737
Flounders	99,042	5,935	33,831	3,494	67,010	8,427
Groupers	3,971,341	121,959	198,501	7,124	49,300	1,479
Grunts	35,885	1,213	-----	-----	-----	-----
Hogfish	1,500	45	-----	-----	-----	-----
Jewfish	49,477	1,853	3,400	121	5,700	171
Kingfish or "king mackerel"	1,302,911	68,680	-----	-----	1,000	40
King whiting or "kingfish"	70,164	2,509	900	27	34,021	1,157
Ladyfish	358,889	9,493	-----	-----	-----	-----
Menhaden	5,857,000	39,149	-----	-----	-----	-----
Mojarro	225,260	7,080	-----	-----	-----	-----
Moonfish	701	21	-----	-----	-----	-----
Mullet	23,489,262	997,917	2,118,341	84,878	802,546	27,756
Muttonfish	34,600	3,460	-----	-----	-----	-----
Paddlefish or spoonbill cat	-----	-----	2,641	158	-----	-----
Permit	33,463	1,086	-----	-----	-----	-----
Pigfish	55,144	1,982	-----	-----	1,300	49
Pinfish or sailors choice	22,871	862	-----	-----	-----	-----
Pompano	419,066	83,723	5,514	981	3,979	639
Porgies	97,324	2,955	-----	-----	-----	-----
Porkfish	600	18	-----	-----	-----	-----
Sawfish	45,000	375	-----	-----	-----	-----
Sea bass	15,560	1,156	-----	-----	8,780	859
Sharks	226,500	2,552	-----	-----	6,000	180
Sheepshead, salt-water	499,322	18,963	37,528	3,006	80,269	6,544
Snapper, mangrove	185,661	7,334	-----	-----	-----	-----
Snapper, red	7,891,203	638,227	1,300,522	118.655	97,328	8,036
Snook or sergeantfish	370,487	12,609	22	2	-----	-----
Spadefish	66,441	2,301	3,190	127	3,420	115
Spanish mackerel	3,227,817	213,984	4,339	403	9,242	1,164
Spot	108,205	3,922	10,833	287	25,900	992
Squeteagues or "sea trout"	2,682,452	243,924	125,258	12,706	487,497	46,856
Sturgeon	16,247	2,097	9,666	2,100	-----	-----
Sunfish	-----	-----	1,725	69	-----	-----
Tang	150	4	-----	-----	-----	-----
Tripletail	7,000	500	1,600	160	-----	-----
Turbot	200	6	-----	-----	-----	-----
Yellowtail	122,158	9,116	-----	-----	-----	-----
Total	53,743,827	2,595,200	4,170,403	251,350	2,138,670	133,826

Fisheries of the Gulf States, 1928—Continued

CATCH: BY STATES—Continued

Species	Florida (west coast)		Alabama		Mississippi	
SHELLFISH, ETC.	*Pounds*	*Value*	*Pounds*	*Value*	*Pounds*	*Value*
Crabs, hard	6,900	$731	101,836	$4,226	1,517,639	$39,789
Crabs, soft			3,200	800	66,816	12,016
Crabs, stone	76,940	11,836				
Sea crawfish or spiny lobster	197,056	15,154				
Shrimp	2,877,174	115,486	5,972,489	179,174	11,766,525	377,248
Clams, hard	750,728	48,993				
Oysters, market, public	2,856,476	218,372	4,074,147	140,823	[1] 14,033,894	474,613
Oysters, market, private	2,100	300	143,976	10,284	159,180	15,610
Oysters, seed, public					1,016,547	6,512
Scallops, bay	14,100	5,000				
Scallops, sea	2,100	1,050				
Terrapin	461	115	429	138	1,398	452
Turtles	22,735	1,756				
Sponges:						
Grass	108,876	27,774				
Sheepswool	345,586	778,497				
Wire	12,690	6,768				
Yellow	87,206	38,323				
Conchs	15,600	1,123				
Total	7,376,728	1,271,278	10,296,077	335,445	28,561,999	926,240
Grand total	61,120,555	3,866,478	14,466,480	586,795	30,700,669	1,060,066

Species	Louisiana		Texas		Total	
FISH	*Pounds*	*Value*	*Pounds*	*Value*	*Pounds*	*Value*
Amberjack					17,342	$584
Barracuda					4,000	120
Black bass					3,267	347
Bluefish	200	$30	700	$70	449,297	31,244
Blue runner or hardtail					444,972	12,543
Bonito					9,036	324
Buffalofish	3,200	310	88,490	4,978	129,376	6,795
Butterfish			1,000	30	21,702	858
Cabio or crab eater					22,627	778
Catfish and bullheads	340,197	17,074	311,279	14,895	952,122	45,635
Cero					12,000	530
Cigarfish					116,500	3,215
Crevalle			1,246	50	85,844	2,854
Croaker	168,500	8,556	84,880	3,783	398,052	17,721
Dolphin					139	14
Drum, black	163,300	8,720	996,470	40,495	1,269,347	53,435
Drum, red, or redfish	433,574	46,738	1,029,882	113,080	2,610,189	216,416
Flounders	12,895	1,642	52,402	6,590	265,180	26,088
Garfish	9,000	900			9,000	900
Groupers	500	30	21,617	698	4,241,259	131,290
Grunts					35,885	1,213
Hogfish					1,500	45
Jewfish	2,000	120	75,746	4,477	136,323	6,742
Kingfish or "king mackerel"			11,300	484	1,315,211	69,204
King whiting or "kingfish"	61,550	2,646	23,896	1,397	190,531	7,736
Ladyfish					358,889	9,493
Menhaden					5,857,000	39,149
Mojarro					225,260	7,080
Moonfish					701	21
Mullet	23,100	965	14,400	405	26,447,649	1,111,921
Muttonfish					34,600	3,460
Paddlefish or spoonbill cat					2,641	158
Permit					33,463	1,086
Pigfish					56,444	2,031
Pinfish or sailors choice					22,871	862
Pompano	1,850	304	10,895	2,474	441,304	88,121
Porgies					97,324	2,955
Porkfish					600	18
Sawfish					45,000	375
Sea bass	1,500	150	3,950	341	29,790	2,506
Sharks					232,500	2,732
Sheepshead, salt-water	108,190	11,929	54,764	3,857	780,073	44,299
Sheepshead, fresh-water			6,800	411	6,800	411

[1] Includes 7,661,248 pounds (1,094,464 bushels), valued at $228,348, taken from beds in Louisiana by Mississippi vessels.

Fisheries of the Gulf States, 1928—Continued

CATCH: BY STATES—Continued

Species	Louisiana		Texas		Total	
	Pounds	*Value*	*Pounds*	*Value*	*Pounds*	*Value*
Snapper, mangrove					185, 661	$7, 334
Snapper, red	48, 000	$6, 720	1, 055, 162	$88, 792	10, 392, 215	860, 430
Snook or sergeantfish			230, 275	22, 276	600, 784	34, 887
Spadefish	100	6	4, 825	249	77, 976	2, 798
Spanish mackerel	22, 171	3, 084	88, 264	10, 069	3, 351, 833	228, 704
Spot	34, 850	1, 823			179, 788	7, 024
Squeteagues or "sea trout"	884, 530	109, 031	1, 159, 899	151, 916	5, 339, 636	564, 433
Sturgeon					25, 913	4, 197
Sunfish					1, 725	69
Tang					150	4
Tripletail					8, 600	660
Tuna or horse mackerel			1, 048	41	1, 048	41
Turbot					200	6
Yellowtail	2, 800	112			124, 958	9, 228
Total	2, 322, 007	220, 890	5, 329, 190	471, 858	67, 704, 097	3, 673, 124
SHELLFISH, ETC.						
Crabs, hard	2, 320, 130	78, 610	300, 500	12, 065	4, 247, 005	135, 421
Crabs, soft	182, 960	52, 424			252, 976	65, 240
Crabs, stone					76, 940	11, 836
Sea crawfish or spiny lobster					197, 056	15, 154
Shrimp	53, 779, 403	2, 159, 359	7, 774, 272	261, 150	82, 169, 863	3, 092, 417
Clams, hard					750, 728	48, 993
Oysters, market, public	1, 506, 113	53, 433	1, 760, 381	123, 255	24, 231, 011	1, 010, 496
Oysters, market, private	9, 342, 550	893, 334	47, 250	6, 703	9, 695, 056	926, 231
Oysters, seed, public					1, 016, 547	6, 512
Scallops, bay					14, 100	5, 000
Scallops, sea					2, 100	1, 050
Terrapin	53, 816	19, 816			56, 104	20, 521
Turtles			900	27	23, 635	1, 783
Sponges:						
Grass					108, 876	27, 774
Sheepswool					345, 586	778, 497
Wire					12, 690	6, 768
Yellow					87, 206	38, 323
Conchs					15, 600	1, 123
Total	67, 184, 972	3, 256, 976	9, 883, 303	403, 200	123, 303, 079	6, 193, 139
Grand total	69, 506, 979	3, 477, 866	15, 212, 493	875, 058	191, 007, 176	9, 866, 263

PRODUCTION OF CERTAIN SHELLFISH SHOWN IN NUMBERS AND BUSHELS

Products	Florida (west coast)		Alabama		Mississippi	
	Quantity	*Value*	*Quantity*	*Value*	*Quantity*	*Value*
Crabs, hard ....number	20, 700	$731	305, 508	$4, 226	4, 552, 917	$39, 789
Crabs, soft ....do			9, 600	800	200, 448	12, 016
Crabs, stone ....do	102, 587	11, 836				
Clams, hard ....bushels	93, 841	48, 993				
Oysters, market, public ....do	408, 068	218, 372	582, 021	140, 823	2, 004, 842	474, 613
Oysters, market, private ....do	300	300	20, 568	10, 284	22, 740	15, 610
Oysters, seed, public ....do					145, 221	6, 512
Scallops, bay ....do	2, 350	5, 000				
Scallops, sea ....do	350	1, 050				

Products	Louisiana		Texas		Total	
	Quantity	*Value*	*Quantity*	*Value*	*Quantity*	*Value*
Crabs, hard ....number	6, 960, 390	$78, 610	901, 500	$12, 065	12, 741, 015	$135, 421
Crabs, soft ....do	548, 880	52, 424			758, 928	65, 240
Crabs, stone ....do					102, 587	11, 836
Clams, hard ....bushels					93, 841	48, 993
Oysters, market, public ....do	215, 159	53, 433	251, 483	123, 255	3, 461, 573	1, 010, 496
Oysters, market, private ....do	1, 334, 650	893, 334	6, 750	6, 703	1, 385, 008	926, 231
Oysters, seed, public ....do					145, 221	6, 512
Scallops, bay ....do					2, 350	5, 000
Scallops, sea ....do					350	1, 050

Industries related to the fisheries of the Gulf States, 1928

Items	Florida (west coast)	Alabama	Missis-sippi	Louisiana	Texas	Total
Transporting:						
Persons engaged	47	6	4	28	----------	85
Vessels—						
Motor	19	2	2	12	----------	35
Net tonnage	295	32	19	135	----------	481
Sail	----------	1	----------	1	----------	2
Net tonnage	----------	7	----------	16	----------	23
Total vessels	19	3	2	13	----------	37
Total net tonnage	295	39	19	151	----------	504
Wholesale trade:						
Establishments	110	17	26	36	61	250
Persons engaged	667	143	233	324	401	1,768
Salaries and wages paid	$528,088	$167,110	$121,295	$286,116	$217,303	$1,319,912
Prepared products and by-products industries:						
Establishments	10	7	23	48	9	97
Persons engaged	232	217	791	1,302	133	2,675
Salaries and wages paid	$147,021	$149,807	$499,794	$677,510	$93,616	$1,567,748
Products	$683,610	$640,772	$1,899,999	$4,577,468	$330,008	$8,131,857
Products prepared by the fishermen	$25,467	$720	$4,723	----------	----------	$30,910

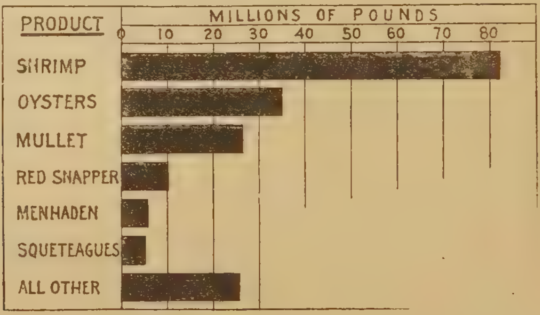

FIGURE 23.—Yield of principal fishery products in the Gulf States, 1928

WEST COAST OF FLORIDA [8]

The west coast of Florida in 1928 ranked second among the States bordering on the Gulf of Mexico with respect to the volume of the catch, employing 36 per cent of the total number of fishermen and accounting for 32 per cent of the total catch. The fisheries and industries related to the fisheries employed 6,742 persons, which is 10 per cent greater than the number in 1927. Of the total, 5,796 were fishermen, 47 were employed on transporting vessels, 677 in the wholesale trade, and 232 in the prepared products and by-products industries.

The total catch amounted to 61,120,555 pounds, valued at $3,866,478. This is a decrease of 17 per cent in the catch and 11 per cent in the value of the catch, compared with the catch and its value for 1927. Of the total value of the catch, that for mullet accounted for 26 per cent; sponges, 22 per cent; red snapper, 17 per cent; and squeteagues or "sea trout," Spanish mackerel, and oysters, each 6 per cent. O the total production, that of mullet accounted for 38 per cent; red snapper, 13 per cent; menhaden, 10 per cent; groupers, 6 per cent; and Spanish mackerel, shrimp, and oysters, each 5 per cent.

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[8] See pp. 914–923 for complete statistics for Florida.

OPERATING UNITS BY GEAR

The catch of fishery products along the west coast of Florida during 1928 was taken by 5,796 fishermen, who used 83 motor vessels, 13 sailing vessels, 4,816 motor and other boats, and 20 major types of gear. The motor and sailing vessels had a combined capacity of 3,446 net tons. The fisheries accounting for the greatest number of persons were the drift gill-net fishery, employing 1,907 fishermen, and the hand-line fishery, employing 1,664 fishermen.

CATCH BY GEAR

Four types of gear caught 81 per cent of the fish taken in the marine fisheries of the west coast of Florida during 1928. Listed in order of importance they were gill nets, which accounted for 36 per cent of the catch; lines, 24 per cent; haul seines, 12 per cent; and purse seines, 9 per cent.

The catch by gill nets was made up largely of mullet, Spanish mackerel, and squeteagues or "sea trout"; that by lines consisted largely of red snapper, groupers, and kingfish; that by haul seines consisted mainly of mullet, and Spanish mackerel; and that by purse seines was made up entirely of menhaden.

OPERATING UNITS BY COUNTIES

Pinellas County was foremost in the number of persons fishing, accounting for 20 per cent of the total. Franklin County followed with 13 per cent. Other counties employing a considerable number of fishermen, listed in order of their importance in this respect, were: Charlotte, Escambia, Monroe, and Bay. Escambia County accounted for 41 per cent of the total number of fishing vessels and Bay County 23 per cent. Franklin County led in the number of small motor and other types of fishing boats, accounting for 16 per cent of the total. Charlotte County followed with 13 per cent of the total.

CATCH BY COUNTIES

Fishing was prosecuted in the marine waters of 23 counties on the west coast of Florida in 1928. Ranked according to value, the fisheries of Pinellas County were most important, accounting for 9 per cent of the total catch and 28 per cent of the total value of the catch. Escambia County was next in value of catch, accounting for 12 per cent of the quantity and 13 per cent of the total value. Other important counties listed in order with respect to the value of catch were Franklin, Charlotte, Bay, and Monroe.

Fisheries of the west coast of Florida, 1928

OPERATING UNITS: BY GEAR

Items	Purse seines, menhaden	Haul seines, common	Gill nets		Lines		
			Drift	Set	Hand	Trot with hooks	Troll
Fishermen:	*Number*	*Number*	*Number*	*Number*	*Number*	*Number*	*Number*
On vessels	60	6			644		
On boats and shore—							
Regular		879	1, 907	15	782	6	194
Casual					238		
Total	60	885	1, 907	15	1, 664	6	194
Vessels:							
Motor—							
5 to 10 tons		1			11		
11 to 20 tons					21		
21 to 30 tons					6		
31 to 40 tons	1				3		
41 to 50 tons					8		
51 to 60 tons					6		
61 to 70 tons	1				12		
71 to 80 tons					2		
91 to 100 tons					1		
101 to 110 tons					1		
Total	2	1			71		
Net tonnage	96	7			2, 740		
Sail—							
31 to 40 tons					3		
51 to 60 tons					3		
61 to 70 tons					3		
131 to 140 tons					1		
141 to 150 tons					1		
Total					11		
Net tonnage					766		
Total vessels	2	1			82		
Total net tonnage	96	7			3, 226		
Boats:							
Motor		161	757	2	441	2	133
Other		182	1, 649	5	201	6	
Apparatus:							
Number	2	164	1, 853	12	1, 716	6	326
Length, yards	560	63, 865					
Square yards			1, 840, 836	5, 100			
Hooks, baits, or snoods					2, 642	1, 000	478

Items	Pound nets	Trammel nets	Stop nets	Fyke nets	Dip nets, common	Cast nets
Fishermen:	*Number*	*Number*	*Number*	*Number*	*Number*	*Number*
On boats and shore—						
Regular	24	394	107	12	51	9
Casual		2			6	6
Total	24	396	107	12	57	15
Boats:						
Motor	6	162	30	6	25	1
Other	16	199	90	12	37	7
Apparatus:						
Number	10	254	240	240	57	15
Square yards		215, 460	39, 750			

Fisheries of the west coast of Florida, 1928—Continued

OPERATING UNITS: BY GEAR—Continued

Items	Otter trawls, shrimp	Crab pots	Crawfish pots	Spears	Clam dredges	Tongs	Rakes
Fishermen:	*Number*	*Number*	*Number*	*Number*	*Number*	*Number*	*Number*
On vessels	8					4	
On boats and shore—							
Regular	236	26	16	62	19	564	18
Casual				4		10	
Total	244	26	16	66	19	578	18
Vessels:							
Motor—							
5 to 10 tons	3					2	
11 to 20 tons	1						
Total	4					2	
Net tonnage	33					13	
Total vessels	4					2	
Total net tonnage	33					13	
Boats:							
Motor	118	14	3			221	12
Other		19	13			182	18
Apparatus:							
Number	122	1,510	330	66	2	578	18
Yards at mouth	1,375						

Items	Forks	Hooks		Diving apparatus	By hand	Total exclusive of duplication
		Sponge	Sea crawfish			
ishermen:	*Number*	*Number*	*Number*	*Number*	*Number*	*Number*
On vessels		44				764
On boats and shore—						
Regular	15	368	57	404	29	4,790
Casual					44	242
Total	15	412	57	404	73	5,796
essels:						
Motor—						
5 to 10 tons		1				17
11 to 20 tons		2				24
21 to 30 tons		1				7
31 to 40 tons						4
41 to 50 tons						8
51 to 60 tons						6
61 to 70 tons						13
71 to 80 tons						2
91 to 100 tons						1
101 to 110 tons						1
Total		4				83
Net tonnage		52				2,665
Sail—						
5 to 10 tons		1				1
11 to 20 tons		1				1
31 to 40 tons						3
51 to 60 tons						3
61 to 70 tons						3
131 to 140 tons						1
141 to 150 tons						1
Total		2				13
Net tonnage		25				781
Total vessels		6				96
Total net tonnage		77				3,446
oats:						
Motor	2	97	27	52	12	1,960
Other	15	170	41		22	2,856
pparatus:						
Number	15	247	57	52		

Fisheries of the west coast of Florida, 1928—Continued

CATCH: BY GEAR

Species	Purse seines, menhaden		Haul seines, common		Gill nets			
					Drift		Set	
	Pounds	*Value*	*Pounds*	*Value*	*Pounds*	*Value*	*Pounds*	*Valu*
Amberjack					500	$15		
Black bass					2, 200	220		
Bluefish			164, 503	$9, 208	195, 690	15, 306		
Blue runner or hardtail			161, 362	3, 716	70, 205	2, 215		
Bonito			1, 480	37	200	8		
Cabio or crab eater			267	8				
Catfish and bullheads			1, 400	56	4, 273	191		
Cigarfish			116, 500	3, 215				
Crevalle			24, 320	812	40, 210	1, 382		
Croakers			12, 660	434	16, 002	621		
Drum, black			11, 948	334	14, 713	454		
Drum, red, or redfish			139, 232	5, 038	404, 771	15, 974		
Flounders			12, 379	540	24, 540	1, 049		
Groupers			800	32				
Kingfish or "king mackerel"			52, 730	2, 217	48, 900	2, 710		
King whiting or "kingfish"			22, 805	840	30, 259	1, 080		
Ladyfish			356, 342	9, 416	2, 547	77		
Menhaden	5, 660, 000	$34, 724	197, 000	4, 425				
Mojarro			35, 200	1, 128	137, 060	4, 362		
Moonfish			701	21				
Mullet			4, 415, 766	194, 434	16, 807, 309	706, 613		
Permit			5, 750	196	23, 163	761		
Pigfish			12, 830	463	35, 874	1, 314		
Pinfish or sailors choice			5, 050	192	15, 411	598		
Pompano			76, 441	16, 040	44, 521	8, 644		
Sawfish							45, 000	$37
Sharks							226, 500	2, 55
Sheepshead, salt-water			81, 953	3, 069	201, 813	7, 836		
Snapper, mangrove			18, 529	720	109, 500	4, 326		
Snook or sergeantfish			147, 400	5, 064	160, 403	5, 580		
Spadefish			16, 295	512	35, 504	1, 262		
Spanish mackerel			815, 135	62, 595	2, 158, 649	135, 130		
Spot			28, 561	910	62, 729	2, 389		
Squeteagues or "sea trout"			389, 399	33, 545	1, 016, 923	94, 680		
Sturgeon					16, 247	2, 097		
Yellowtail			7, 900	316	27, 058	1, 262		
Turtles			886	9	6, 849	547	15, 000	1, 20
Total	5, 660, 000	34, 724	7, 333, 524	359, 542	21, 714, 023	1, 018, 703	286, 500	4, 12

Species	Trammel nets		Lines						Pound nets	
			Hand		Trot with hooks		Troll			
	Pounds	*Value*	*Pounds*	*Value*	*Pounds*	*Value*	*Pounds*	*Value*	*Pounds*	*Valu*
Amberjack			16, 842	$569						
Barracuda							4, 000	$120		
Bluefish	9, 200	$840					3, 400	400	17, 477	$1, 74
Blue runner or hardtail	230	5					750	15	179, 345	5, 38
Bonito	560	22							5, 408	21
Butterfish									20, 702	82
Cabio or crab eater			10, 954	353					6, 456	25
Catfish and bullheads	3, 000	150			34, 682	$1, 387				
Cero							12, 000	530		
Crevalle	3, 080	98					650	19	238	
Croakers	11, 186	470							356	1
Dolphin									139	1
Drum, black	3, 940	123	6, 314	204					406	
Drum, red, or redfish	38, 097	1, 740	238, 046	8, 689					13, 792	68
Flounders	6, 406	328	4, 900	156					207	1
Groupers			3, 970, 449	121, 921					92	
Grunts			35, 885	1, 213						
Hogfish			1, 500	45						
Jewfish			49, 057	1, 849					420	
Kingfish or "king mackerel"	4, 000	200	112, 981	6, 071			1, 061, 467	56, 341	22, 833	1, 14
King whiting or "kingfish"	8, 100	319								
Mullet	1, 553, 065	69, 924							18, 122	90
Muttonfish			34, 600	3, 460						
Permit			750	15						
Pigfish	2, 800	96							240	

Fisheries of the west coast of Florida, 1928—Continued

CATCH: BY GEAR—Continued

Species	Trammel nets		Lines						Pound nets	
			Hand		Trout with hooks		Troll			
	Pounds	*Value*	*Pounds*	*Value*	*Pounds*	*Value*	*Pounds*	*Value*	*Pounds*	*Value*
infish or sailors choice	500	$15	300	$9						
ompano	250, 328	49, 510	700	140					11, 476	$2, 869
orgies			97, 324	2, 955						
orkfish			600	18						
ea bass			15, 560	1, 156						
heepshead, salt-water	34. 305	1, 557	133, 220	4, 803					2, 863	143
napper, mangrove	4, 600	230	26, 400	1, 046					632	32
napper, red			7, 891, 203	638, 227						
nook or sergeantfish			10, 500	400						
padefish	3, 260	130	150	4					5, 661	226
panish mackerel	5, 900	550	31, 600	2, 206			163, 000	$8, 150	53, 533	5, 353
pot	9, 915	413								
queteagues or "sea trout"	209, 713	20, 403	824, 343	73, 389					96, 431	9, 643
ang			150	4						
ripletail			7, 000	500						
urbot			200	6						
ellowtail			81, 200	7, 298						
Total	2, 162, 185	147, 123	13, 602, 728	876, 706	34, 682	$1, 387	1, 245, 267	65, 575	456, 829	29, 503

Species	Stop nets		Fyke nets		Dip nets		Cast nets	
	Pounds	*Value*	*Pounds*	*Value*	*Pounds*	*Value*	*Pounds*	*Value*
lue runner or hardtail	7, 000	$210						
onito	1, 388	41						
atfish and bullheads			55, 650	$1, 670				
revalle	8, 000	240						
roaker	1, 800	54						
rum, black	2, 000	60						
rum, red, or redfish	55, 000	1, 750					400	$24
lounders	4, 685	145						
ing whiting or "kingfish"	9, 000	270						
ojarro	53, 000	1, 590						
ullet	680, 000	25, 200					15, 000	840
ermit	3, 800	114						
igfish	3, 400	102						
infish or sailors choice	1, 610	48						
ompano	35, 600	6, 520						
heepshead, salt-water	44, 768	1, 531					400	24
napper, mangrove	26, 000	980						
nook or sergeantfish	52, 184	1, 565						
padefish	5, 571	167						
pot	7, 000	210						
queteague or "sea trout"	144, 443	12, 144					1, 200	120
ellowtail	6, 000	240						
rabs, hard					2, 400	$180		
rabs, stone					380	38		
ea crawfish or spiny lobster					113, 803	8, 704		
Total	1, 152, 249	53, 181	55, 650	1, 670	116, 583	8, 922	17, 000	1, 008

Species	Otter trawls, shrimp		Crab pots		Crawfish pots		Spears		Dredges	
	Pounds	*Value*	*Pounds*	*Value*	*Pounds*	*Value*	*Pounds*	*Value*	*Pounds*	*Value*
lounders							45, 925	$3, 707		
rabs, hard			4, 500	$551						
rabs, stone			73, 780	11, 460						
a crawfish or spiny lobster					25, 352	$2, 028				
hrimp	2, 877, 174	$115, 486								
lams, hard									687, 520	$42, 970
Total	2, 877, 174	115, 486	78, 280	12, 011	25, 352	2, 028	45, 925	3, 707	687, 520	42, 970

Fisheries of the west coast of Florida, 1928—Continued

CATCH: BY GEAR—Continued

Species	Tongs		Rakes		Forks		Sponge hook	
	Pounds	*Value*	*Pounds*	*Value*	*Pounds*	*Value*	*Pounds*	*Va'ue*
Clams, hard					28, 352	$1, 774		
Oysters, market, public	2, 821, 476	$212, 122	35, 000	$6, 250				
Oysters, market, private	2, 100	300						
Sponges:								
Grass							53, 939	$12, 3
Sheepswool							94, 627	136, 50
Wire							1, 269	67
Yellow							26, 312	9, 95
Total	2, 823, 576	212, 422	35, 000	6, 250	28, 352	1, 774	176, 147	159, 52

Species	Sea crawfish hooks		Diving outfits		By hand	
	Pounds	*Value*	*Pounds*	*Value*	*Pounds*	*Value*
Crabs, stone	2, 780	$338				
Sea crawfish or spiny lobster	57, 901	4, 422				
Clams, hard					34, 856	$4, 24
Scallops, bay					14, 100	5, 00
Scallops, sea					2, 100	1, 05
Terrapin					461	11
Sponges:						
Grass			54, 937	$15, 383		
Sheepswool			250, 959	641, 992		
Wire			11, 421	6, 091		
Yellow			60, 894	28, 367		
Conchs	15, 600	1, 123				
Total	76, 281	5, 883	378, 211	691, 833	51, 517	10, 41

OPERATING UNITS: BY COUNTIES

Items	Bay	Charlotte	Citrus	Collier	Dixie	Escambia	Franklin	Gulf
Fishermen:	*Number*	*Number*	*Number*	*Number*	*Number*	*Number*	*Number*	*Numbe*
On vessels	165					337	34	6
On boats and shore—								
Regular	303	468	240	120	30	185	724	4
Casual	6	70		20		8	1	
Total	474	538	240	140	30	530	759	10
Vessels:								
Motor—								
5 to 10 tons	5						8	
11 to 20 tons	6					7	1	
21 to 30 tons	3					1		
31 to 40 tons	1							
41 to 50 tons	2					6		
51 to 60 tons						4		
61 to 70 tons	5					7		
71 to 80 tons						2		
91 to 100 tons						1		
101 to 110 tons						1		
Total	22					29	9	
Net tonnage	652					1, 422	65	9
Sail—								
31 to 40 tons						2		
51 to 60 tons						3		
61 to 70 tons						3		
131 to 140 tons						1		
141 to 150 tons						1		
Total						10		
Net tonnage						717		
Total vessels	22					39	9	
Total net tonnage	652					2, 139	65	9
Boats:								
Motor	90	269	103	43	6	51	447	1
Other	84	369	203	99	30	48	325	1

Fisheries of the west coast of Florida, 1928—Continued

OPERATING UNITS: BY COUNTIES—Continued

Items	Bay	Charlotte	Citrus	Collier	Dixie	Escambia	Franklin	Gulf
Apparatus:	*Number*	*Number*	*Number*	*Number*	*Number*	*Number*	*Number*	*Number*
Purse seines, menhaden								2
Yards								560
Haul seines, common	29	23		1		4	15	5
Yards	9, 290	9, 450		400		1, 450	6, 050	2, 200
Gill nets—								
Drift	42	293	170	60	21	19	44	3
Square yards	23, 120	460, 814	102, 000	69, 470	8, 400	22, 700	21, 700	1, 800
Trammel nets	15	38		2		33		4
Square yards	9, 000	92, 950		2, 100		15, 400		1, 460
Lines—								
Hand	233	168	41	40	19	410	156	
Hooks	466	168	41	40	19	820	197	
Stop nets		230						
Square yards		38, 250						
Fyke nets							240	
Dip nets, common						6		
Cast nets	12							
Otter trawls, shrimp						8	114	
Yards at mouth						80	1, 295	
Spears	28						22	
Dredges, clam				2				
Tongs	72	6	29			32	384	
Forks				15				

Items	Hernando	Hillsborough	Jefferson	Lee	Levy	Manatee	Monroe	Okaloosa
Fishermen:	*Number*	*Number*	*Number*	*Number*	*Number*	*Number*	*Number*	*Number*
On vessels		25					50	
On boats and shore—								
Regular	4	140	12	190	196	161	434	112
Casual					10	10		
Total	4	165	12	190	206	171	484	112
Vessels:								
Motor—								
5 to 10 tons							2	
11 to 20 tons		3					3	
21 to 30 tons		1						
51 to 60 tons							2	
Total		4					7	
Net tonnage		63					172	
Total vessels		4					7	
Total net tonnage		63					172	
Boats:								
Motor	1	49	3	123	85	55	152	20
Other	4	104	12	154	165	130	245	12
Apparatus:								
Haul seines, common		11		3		17		14
Yards		4, 100		1, 300		7, 300		4, 900
Gill nets—								
Drift	4	97	12	146	114	134	53	
Square yards	2, 400	55, 950	7, 200	175, 862	42, 630	156, 965	145, 600	
Set							12	
Square yards							5, 100	
Trammel nets				4	100	8		12
Square yards				10, 200	36, 300	8, 400		5, 450
Lines—								
Hand		55	10	53	55	34	108	42
Hooks		96	10	53	55	34	151	84
Trot with hooks					6			
Hooks					1, 000			
Troll					6		136	
Hooks					12		272	
Pound nets					10			
Stop nets				10				
Square yards				1, 500				
Dip nets, common							51	
Cast nets						3		

Fisheries of the west coast of Florida, 1928—Continued

OPERATING UNITS: BY COUNTIES—Continued

Items	Hernando	Hillsborough	Jefferson	Lee	Levy	Manatee	Monroe	Okaloosa
Apparatus—Continued.	*Number*	*Number*	*Number*	*Number*	*Number*	*Number*	*Number*	*Numbe*
Pots—								
Crab							120	
Crawfish							330	
Spears								8
Tongs					20	8		
Hooks—								
Sponge							186	
Sea crawfish							55	

Items	Pasco	Pinellas	Santa Rosa	Sarasota	Taylor	Wakulla	Walton
Fishermen:	*Number*	*Number*	*Number*	*Number*	*Number*	*Number*	*Number*
On vessels		93					
On boats and shore—							
Regular	29	940	30	162	55	196	10
Casual		103	4			10	
Total	29	1, 136	34	162	55	206	10
Vessels:							
Motor—							
5 to 10 tons		2					
11 to 20 tons		4					
21 to 30 tons		2					
31 to 40 tons		2					
Total		10					
Net tonnage		195					
Sail—							
5 to 10 tons		1					
11 to 20 tons		1					
31 to 40 tons		1					
Total		3					
Net tonnage		64					
Total vessels		13					
Total net tonnage		259					
Boats:							
Motor	5	247	9	150	11	26	3
Other	29	336	12	254	55	165	5
Apparatus:							
Haul seines, common		18		14		10	
Yards		10, 350		4, 625		2, 450	
Gill nets—							
Drift	29	291		132	49	140	
Square yards	17, 400	295, 525		123, 300	24, 000	84, 000	
Trammel nets		9	12	12			5
Square yards		14, 700	5, 400	12, 600			1, 500
Lines—							
Hand		224		56	12		
Hooks		322		74	12		
Troll				174	10		
Hooks				174	20		
Pots—Crab		1, 265		125			
Spears			8				
Tongs		1	6			20	
Rakes				18			
Hooks—							
Sponge		61					
Sea crawfish		2					
Diving apparatus		52					

Fisheries of the west coast of Florida, 1928—Continued

CATCH: BY COUNTIES

Species	Bay		Charlotte		Citrus		Collier	
	Pounds	*Value*	*Pounds*	*Value*	*Pounds*	*Value*	*Pounds*	*Value*
Amberjack	942	$28						
Black bass					2,200	$220		
Bluefish	108,244	5,413	59,371	$4,913	13,592	1,359	2,600	$148
Blue runner or hardtail	29,029	846	11,115	333			8,240	300
Bonito	700	21	1,388	41				
Cabio or crab eater			5,554	167				
Cigarfish	88,500	2,655						
Crevalle			18,912	567	1,232	37	6,500	235
Croakers			4,881	156			850	25
Drum, black			4,356	130	2,118	63	3,000	98
Drum, red, or redfish	8,990	386	337,711	10,510	54,320	2,476	38,500	1,540
Flounders	19,016	1,721	15,463	480	1,556	71	550	22
Groupers	987,032	29,615	3,278	98	2,000	80	2,000	80
Grunts			3,996	120	1,800	80	2,000	80
Jewfish	9,200	276	4,248	123			1,000	20
Kingfish or "king mackerel"	1,661	66	61,839	3,092			3,400	180
King whiting or "kingfish"	400	16	17,567	527			6,900	276
Ladyfish	176,067	5,281						
Menhaden	30,500	915						
Mojarro			162,099	4,863			11,000	340
Moonfish	701	21						
Mullet	974,369	50,283	4,491,805	172,373	1,699,048	78,122	689,848	27,594
Permit			16,671	500			4,000	150
Pigfish			7,659	240	1,880	84	2,500	85
Pinfish or sailors choice			3,587	107			650	25
Pompano	13,665	2,783	179,577	32,581	1,190	238	2,639	528
Porgies	36,183	1,086						
Sea bass					800	80		
Sheepshead, salt-water	22,640	1,036	183,476	5,892	20,306	905	14,000	560
Snapper, mangrove	811	32	62,832	2,306	18,168	758	4,600	184
Snapper, red	1,435,063	114,717						
Snook or sergeantfish			203,400	6,101			41,393	1,656
Spadefish	1,376	41	15,989	479	2,960	136	1,900	67
Spanish mackerel	345,704	27,655	495,966	29,758			16,778	1,148
Spot	16,715	501	13,971	419			2,000	70
Squeteague or "sea trout"	100,624	8,751	604,770	50,070	228,752	22,875	73,646	6,415
Tripletail			3,000	220			1,000	60
Yellowtail			14,000	560			2,000	120
Clams, hard							715,872	44,744
Oysters, market, public	90,468	12,924	14,000	2,000	199,500	9,650		
Total	4,498,600	267,069	7,022,481	329,726	2,251,422	117,234	1,659,366	86,750

Species	Dixie		Escambia		Franklin		Gulf		Hernando	
	Pounds	*Value*	*Pounds*	*Value*	*Pounds*	*Value*	*Pounds*	*Value*	*Pounds*	*Value*
Amberjack			400	$16						
Bluefish	3,000	$270	65,517	3,603	3,673	$200	10,540	$527	300	$36
Blue runner or hardtail			57,827	1,156	600	12	2,230	45		
Bonito			780	16						
Cabio or crab eater			1,500	45						
Catfish and bullheads					59,323	1,817				
Crevalle			1,040	32						
Croakers	400	16	4,860	146	800	24	566	11		
Drum, black			685	9	699	28			100	5
Drum, red, or redfish	14,000	560	22,367	671	12,732	636	2,244	89	800	64
Flounders	600	24	2,112	127	20,983	1,138	1,000	60	100	8
Groupers			1,493,351	44,814	366,162	10,885				
Grunts	1,000	40			200	6				
Jewfish			13,300	399						
Kingfish or "king mackerel"			19,855	794			1,000	40		
King whiting or "kingfish"			15,280	611	1,500	45	1,000	30		
Ladyfish			58,450	1,169	59,441	1,633	10,000	300		
Menhaden			128,500	2,570	18,000	540	5,660,000	34,724		
Mullet	200,000	8,000	348,221	13,929	1,324,688	57,446	177,750	7,510	60,000	3,600
Pigfish	3,000	120	2,830	85					100	6
Pinfish or sailors choice	2,000	80					500	15		
Pompano	1,800	270	12,112	2,907	2,334	671	10,000	2,500	100	30
Porgies			22,865	687	800	24				
Sheepshead, salt-water	12,000	480	14,911	596	3,766	163	1,678	67	300	24
Snapper, mangrove	2,000	80							300	18
Snapper, red			4,618,581	372,953	577,732	50,596				
Spadefish	100	4	1,340	54	1,500	45	1,180	23	100	6
Spanish mackerel	100	8	236,522	21,287	28,464	2,277	56,400	4,512		

Fisheries of the west coast of Florida, 1928—Continued

CATCH: BY COUNTIES—Continued

Species	Dixie		Escambia		Franklin		Gulf		Hernando	
	Pounds	*Value*	*Pounds*	*Value*	*Pounds*	*Value*	*Pounds*	*Value*	*Pounds*	*Value*
Spot	4, 000	$160	1, 280	$26	232	$4				
Squeteague or "sea trout"	40, 000	3, 600	8, 000	720	83, 101	7, 791	18, 500	$1, 480	4, 000	$480
Sturgeon			3, 604	432	9, 599	1, 056				
Crabs, hard			2, 400	180						
Shrimp			87, 072	3, 483	2, 790, 102	112, 003				
Oysters, market, public			100, 800	14, 400	2, 315, 208	165, 618				
Turtles			886	9						
Total	284, 000	13, 712	7, 347, 248	487, 926	7, 681, 639	414, 658	5, 954, 588	51, 933	66, 200	4, 277

Species	Hillsborough		Jefferson		Lee		Levy		Manatee	
	Pounds	*Value*	*Pounds*	*Value*	*Pounds*	*Value*	*Pounds*	*Value*	*Pounds*	*Value*
Bluefish	96	$12	360	$32	9, 254	$1, 065	25, 577	$2, 558	20, 444	$1, 635
Blue runner or hardtail	250	10			10, 392	340	179, 345	5, 380	12, 300	492
Bonito							6, 168	246		
Butterfish							20, 702	828		
Cabio or crab eater	767	23					6, 456	258	2, 400	96
Catfish and bullheads							39, 682	1, 637		
Crevalle	8, 923	262			7, 832	256	1, 338	53	9, 893	396
Croakers	1, 000	32	200	8	2, 470	80	6, 956	328	2, 845	114
Dolphin							139	14		
Drum, black	6, 207	132			4, 316	130	4, 519	90	3, 500	140
Drum, red, or redfish	57, 121	2, 316	15, 612	624	35, 284	1, 127	53, 521	2, 674	74, 130	2, 965
Flounders	2, 215	92	50	2	2, 340	75	2, 857	143	8, 925	357
Groupers	143, 183	4, 296			7, 031	224	10, 092	406	6, 000	240
Grunts					4, 080	127			3, 000	120
Jewfish	416	12			2, 400	52	420	4	800	16
Kingfish or "king mackerel"					13, 026	781	34, 859	1, 742	25, 756	1, 595
King whiting or "kingfish"	625	20			10, 560	347			4, 580	183
Ladyfish	7, 071	71							3, 000	60
Mojarro	5, 250	210			31, 751	1, 061			10, 150	406
Mullet	1, 364, 734	60, 496	122, 640	4, 906	1, 982, 464	79, 298	1, 126, 832	55, 842	1, 742, 163	68, 686
Permit	250	10			6, 990	223			1, 025	41
Pigfish	5, 250	160	400	16	8, 712	273	1, 840	75	11, 137	445
Pinfish or sailors choice	1, 800	72	150	6	1, 660	52			2, 625	105
Pompano	5, 120	1, 024	100	15	5, 875	1, 180	18, 362	4, 592	64, 650	12, 930
Porgies	100	3							1, 000	40
Sea bass							14, 760	1, 076		
Sheepshead, salt-water	8, 712	348	11, 250	450	40, 507	1, 336	28, 503	1, 425	31, 300	1, 252
Snapper, mangrove	1, 150	46	2, 400	96	15, 904	505	8, 632	432	10, 660	426
Snapper, red	156, 557	12, 525								
Snook or sergeantfish	17, 375	785			34, 265	1, 105			32, 360	1, 294
Spadefish	7, 973	210			4, 571	145	12, 161	486	5, 635	226
Spanish mackerel	10, 350	812	100	8	145, 380	8, 723	59, 433	5, 943	177, 425	13, 739
Spot	6, 700	208	4, 400	176	9, 175	290	10, 000	500	9, 460	378
Squeteague or "sea trout"	176, 548	15, 839	19, 250	1, 732	173, 460	14, 583	437, 675	43, 767	159, 945	13, 565
Sturgeon							3, 044	609		
Tripletail					3, 000	220				
Yellowtail					5, 860	234				
Clams, hard					1, 000	140			1, 856	209
Oysters, market, public							43, 400	2, 860	6, 300	990
Terrapin							461	115		
Turtles							6, 849	547		
Total	1, 995, 743	100, 026	176, 912	8, 071	2, 579, 559	113, 972	2, 164, 583	134, 630	2, 445, 264	123, 141

Species	Monroe		Okaloosa		Pasco		Pinellas	
	Pounds	*Value*	*Pounds*	*Value*	*Pounds*	*Value*	*Pounds*	*Value*
Amberjack	9, 200	$276	800	$24			6, 000	$240
Barracuda	4, 000	120						
Bluefish	12, 400	1, 480	20, 542	1, 130	2, 300	$230	19, 300	1, 805
Blue runner or hardtail	16, 750	335	65, 006	1, 300			3, 760	114
Cero	12, 000	530						
Cigarfish			28, 000	560				
Crevalle	1, 450	43	4, 600	138			3, 270	81
Croakers			2, 400	72			1, 404	56

Fisheries of the west coast of Florida, 1928—Continued

CATCH: By counties—Continued

Species	Monroe		Okaloosa		Pasco		Pinellas	
	Pounds	*Value*	*Pounds*	*Value*	*Pounds*	*Value*	*Pounds*	*Value*
Drum, black	800	$24	400	$6	400	$16	1,950	$47
Drum, red, or redfish	1,600	48	3,404	102	10,000	400	37,537	1,607
Flounders	-	-	4,139	378	400	16	5,932	263
Groupers	235,800	9,427	224,708	6,741	-	-	478,576	14,680
Grunts	12,200	366	-	-	-	-	5,609	214
Hogfish	1,500	45	-	-	-	-	-	-
Jewfish	14,100	843	3,093	93	-	-	500	15
Kingfish or "king mackerel"	901,487	44,954	27,975	1,119	-	-	59,099	3,281
King whiting or "kingfish"	1,600	48	800	32	-	-	2,480	99
Ladyfish	-	-	40,754	815	-	-	4,106	164
Menhaden	-	-	20,000	400	-	-	-	-
Mojarro	-	-	-	-	-	-	2,010	80
Mullet	190,615	5,718	216,186	8,648	365,636	14,625	3.105,414	124,215
Muttonfish	34,600	3,460	-	-	-	-	-	-
Permit	1,150	27	-	-	-	-	500	20
Pigfish	-	-	-	-	-	-	4,780	191
Pinfish or sailors choice	1,100	33	-	-	1,500	60	4,545	182
Pompano	1,800	360	10,198	2,448	400	88	37,614	7,087
Porgies	4,500	135	28,476	854	-	-	2,400	96
Porkfish	600	18	-	-	-	-	-	-
Sawfish	45,000	375	-	-	-	-	-	-
Sharks	226,500	2,552	-	-	-	-	-	-
Sheepshead, salt-water	3,100	94	5,840	234	10,000	400	36,185	1,576
Snapper, mangrove	19,000	760	-	-	10,000	400	8,050	352
Snapper, red	208,200	19,620	132,409	10,592	-	-	762,661	57,224
Snook or sergeantfish	-	-	-	-	-	-	7,170	287
Spadefish	550	16	665	20	400	16	2,400	96
Spanish mackerel	1,058,000	52,900	140,243	11,219	-	-	343,579	24,935
Spot	800	24	2,440	73	-	-	4,698	178
Squeteague or "sea trout"	400	40	19,460	1,946	16,000	1,600	283,620	25,608
Tang	150	4	-	-	-	-	-	-
Turbot	200	6	-	-	-	-	-	-
Yellowtail	83,200	7,518	-	-	-	-	-	-
Crabs, stone	10,760	876	-	-	-	-	64,560	10,510
Sea crawfish or spiny lobster	197,056	15,154	-	-	-	-	-	-
Clams, hard	-	-	-	-	-	-	8,000	1,200
Oysters, market, private	-	-	-	-	-	-	2,100	300
Scallops, bay	-	-	-	-	-	-	14,100	5,000
Turtles	15,000	1,200	-	-	-	-	-	-
Sponges:								
Grass	29,387	3,469	-	-	-	-	79,489	24,305
Sheepswool	34,844	52,265	-	-	-	-	310,742	726,232
Wire	-	-	-	-	-	-	12,690	6,768
Yellow	19,287	6,429	-	-	-	-	67,919	31,894
Conchs	15,600	1,123	-	-	-	-	-	-
Total	3,426,286	232,715	1,002,538	48,944	417,036	17,851	5,794,749	1,071,016

Species	Santa Rosa		Sarasota		Taylor		Wakulla		Walton	
	Pounds	*Value*	*Pounds*	*Value*	*Pounds*	*Value*	*Pounds*	*Value*	*Pounds*	*Value*
Bluefish	-	-	8,000	$800	700	$63	4,460	$223	-	-
Blue runner or hardtail	-	-	21,098	844	100	4	850	30	-	-
Cabio or crab eater	-	-	1,000	30	-	-	-	-	-	-
Crevalle	-	-	11,508	460	-	-	-	-	-	-
Croakers	3,000	$150	7,672	307	700	28	-	-	1,000	$40
Drum, black	1,200	60	2,877	114	-	-	1,794	71	400	20
Drum, red, or redfish	1,800	180	30,588	1,223	14,820	593	61,257	3,062	1,000	50
Flounders	8,400	840	1,438	57	110	4	656	32	200	20
Groupers	-	-	12,128	364	-	-	-	-	-	-
Grunts	-	-	2,000	60	-	-	-	-	-	-
Kingfish or "king mackerel"	-	-	122,954	9,836	30,000	1,200	-	-	-	-
King whiting or "kingfish"	-	-	6,672	267	-	-	-	-	200	8
Mojarro	-	-	3,000	120	-	-	-	-	-	-
Mullet	182,800	9,140	1,028,221	46,270	282,620	11,305	1,738,208	86,911	75,000	3,000
Permit	-	-	2,877	115	-	-	-	-	-	-
Pigfish	-	-	4,356	174	700	28	-	-	-	-
Pinfish or sailors choice	-	-	959	38	300	12	1,495	75	-	-
Pompano	-	-	49,096	11,047	360	54	1,674	290	400	100
Porgies	-	-	1,000	30	-	-	-	-	-	-
Sheepshead, salt-water	2,400	120	31,086	1,243	10,400	416	5,962	296	1,000	50
Snapper, mangrove	-	-	5,754	229	6,000	240	9,400	470	-	-
Snook or sergeantfish	-	-	34,524	1,381	-	-	-	-	-	-
Spadefish	-	-	4,795	191	150	6	696	34	-	-
Spanish mackerel	-	-	112,577	9,006	260	21	536	33	-	-
Spot	-	-	3,918	156	3,640	136	14,576	617	200	6

Fisheries of the west coast of Florida, 1928—Continued

CATCH: BY COUNTIES—Continued

Species	Santa Rosa		Sarasota		Taylor		Wakulla		Walton	
	Pounds	*Value*	*Pounds*	*Value*	*Pounds*	*Value*	*Pounds*	*Value*	*Pounds*	*Value*
Squeteague or "sea trout"	1,000	$100	77,490	$7,749	40,700	$3,663	105,511	$10,550	10,000	$1,000
Yellowtail			17,098	684						
Crabs, hard			4,500	551						
Crabs, stone			1,620	450						
Clams, hard			24,000	2,700						
Oysters, market, public	8,400	1,200	35,000	6,250			43,400	2,480		
Scallops, sea			2,100	1,050						
Total	209,000	11,790	1,671,906	103,796	391,560	17,773	1,990,475	105,174	89,400	4,294

INDUSTRIES RELATED TO THE FISHERIES

Transporting trade.—There were 47 persons in 1928 engaged on the west coast of Florida primarily in transporting the catch from the fishing grounds to market. In this trade 19 motor vessels, having a total capacity of 295 net tons, were operated. The size of vessel in most popular use ranged fron 11 to 20 net tons.

Wholesale trade.—There were 110 wholesale establishments along the west coast of Florida engaged chiefly in handling fresh and frozen products. This is 44 per cent of the total number of such establishments in the Gulf section. Virtually the entire catch of fishery products taken along the west coast of Florida consisted of market fish which accounts for the large percentage of wholesale fish establishments located there. These establishments employed 667 persons who received $528,088 in salaries and wages. Pinelles County had 26 wholesale establishments. Other counties of importance were Monroe and Bay, each with 11 establishments.

Prepared and by-products trade.—There were 10 establishments along the west coast of Florida in 1928 engaged primarily in the manufacture of prepared fishery products or by-products. This is 10 per cent of the total number in the Gulf section. They employed 232 persons who received $147,021 in salaries and wages. The products manufactured consisting principally of menhaden products and canned shrimp and clam products were valued at $683,610. Detailed statistics of most of the items manufactured may be obtained from Fishery Industries of the United States, 1928, Bureau of Fisheries Document No. 1067.

In addition to the above, 428,554 pounds of salted mullet and mullet roe, valued at $25,467, were prepared by the fishermen.

Industries related to the fisheries of the west coast of Florida, 1928

TRANSPORTING

Items	Number
Men on transporting vessels	47
Transporting vessels, motor:	
5 to 10 tons	6
11 to 20 tons	10
21 to 30 tons	1
31 to 40 tons	2
Total vessels	19
Total net tonnage	295

Industries related to the fisheries of the west coast of Florida, 1928—Continued

WHOLESALE FISHERY TRADE

Items	Bay County	Charlotte County	Citrus and Pasco Counties	Escambia, Okaloosa, and Santa Rosa Counties	Franklin and Gulf Counties	Hillsborough County
Establishments	11	5	8	5	14	11
Persons engaged:						
Proprietors	12	7	8	7	15	14
Salaried employees	5	5	1	19	3	4
Wage earners	23	36	21	61	65	27
Paid to salaried employees	$20, 865	$18, 744	$3, 220	$57, 690	$7, 696	$15, 880
Paid to wage earners	18, 743	27, 854	13, 512	69, 299	33, 340	21, 550
Total salaries and wages	39, 608	46, 598	16, 732	126, 989	41, 036	37, 430

Items	Lee and Collier Counties	Levy and Wakulla Counties	Manatee and Sarasota Counties	Monroe County	Pinellas County	Total
Establishments	3	7	9	11	26	110
Persons engaged:						
Proprietors	4	11	16	13	31	138
Salaried employees	3	3	3	3	8	57
Wage earners	7	25	15	42	150	472
Paid to salaried employees	$13, 500	$6, 219	$14, 061	$14, 090	$28, 504	$200, 469
Paid to wage earners	5, 346	19, 470	14, 940	33, 587	69, 978	327, 619
Total salaries and wages	18, 846	25, 689	29, 001	47, 677	98, 482	528, 088

PREPARED FISHERY PRODUCTS AND BY-PRODUCTS

Items	Number
Establishments	10
Persons engaged:	
Proprietors	12
Salaried employees	15
Wage earners	205
Paid to salaried employees	$50, 261
Paid to wage earners	96, 760
Total salaries and wages	147, 021

Products	Quantity	Value
Salted:		
Mullet pounds	450, 376	$34, 919
Mullet roe do	38, 770	11, 530
Canned:		
Oysters standard cases [1]	10, 084	52, 968
Shrimp—		
Dry pack do	3, 685	22, 560
Wet pack do	27, 447	191, 634
Miscellaneous products [2]		369, 999
Total		683, 610

PRODUCTS PREPARED BY THE FISHERMEN

Salted	Pounds	Value
Mullet	402, 543	$20, 265
Mullet roe	26, 011	5, 202
Total	428, 554	25, 467

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[1] A standard case contains forty-eight 5-ounce cans of oysters; forty-eight 5-ounce cans in the dry pack, or forty-eight 5¾-ounce cans in the wet pack of shrimp.

[2] Includes canned turtle and canned clam products, shark and sawfish products, menhaden products, oyster-shell products, and salted fish other than mullet and mullet roe.

ALABAMA

The fisheries of Alabama in 1928 employed 5 per cent of the total number of fishermen and accounted for 8 per cent of the total catch of the Gulf section. The fisheries and industries related to the fisheries employed 1,224 persons, which is 9 per cent greater than the number in 1927. Of the total, 858 were fishermen, 6 were employed on transporting vessels, 143 in the wholesale trade, and 217 in the prepared-products and by-products industries.

The total catch amounted to 14,466,480 pounds, valued at $586,795. This is an increase of 44 per cent in the catch and 34 per cent in the value of the catch, compared with the catch and its value for 1927. Of the total value of the catch, that for shrimp accounted for 31 per cent; oysters, 26 per cent; red snapper, 20 per cent; and mullet, 14 per cent. Of the total production, that of shrimp accounted for 41 per cent; oysters, 29 per cent; mullet, 15 per cent; and red snapper, 9 per cent.

OPERATING UNITS BY GEAR

The catch of fishery products along the coast of Alabama during 1928 was taken by 858 fishermen who used 44 motor vessels, 531 motor and other boats, and 8 major types of gear. The vessels had a combined capacity of 487 net tons. The fisheries accounting for the greatest number of persons were the otter-trawl fishery, employing 360 fishermen, and the tong fishery, employing 247 fishermen.

CATCH BY GEAR

Four types of gear caught 93 per cent of the fish taken in the marine waters of Alabama during 1928. Listed in order of their importance they were otter trawls, which accounted for 41 per cent of the catch; tongs, 29 per cent; lines, 12 per cent; and trammel nets, 11 per cent.

The catch by otter trawl consisted almost entirely of shrimp; that by tongs almost entirely oysters; that by lines principally red snappers; and that by trammel nets chiefly mullet.

OPERATING UNITS BY COUNTIES

The fisheries of Alabama are confined to Baldwin and Mobile Counties. Mobile County accounted for 85 per cent of the number of persons fishing, 82 per cent of the fishing vessels, and 81 per cent of the small motor and other types of fishing boats.

CATCH BY COUNTIES

Of the two counties in Alabama in which marine fisheries were prosecuted, Mobile County was by far the most important, accounting for 89 per cent of the total catch and 86 per cent of the value of the catch. Baldwin County accounted for the remaining 11 per cent of the catch and 14 per cent of the value of the catch.

Fisheries of Alabama, 1928

OPERATING UNITS: BY GEAR

Items	Haul seines, common	Gill nets set	Trammel nets	Lines		
				Hand	Trot with hooks	Trot with baits or snoods
Fishermen:	*Number*	*Number*	*Number*	*Number*	*Number*	*Number*
On vessels	18	2	34	110		
On boats and shore:						
Regular	33	2	95	50	2	17
Casual			8		38	
Total	51	4	137	160	40	17
Vessels:						
Motor—						
5 to 10 tons	3	1	6	3		
11 to 20 tons			1	8		
31 to 40 tons				1		
61 to 70 tons				1		
Total vessels	3	1	7	13		
Total net tonnage	24	7	57	232		
Boats:						
Motor	8	1	40	7	5	
Other	8	2	102	18	40	17
Apparatus:						
Number	15	32	136	160	118	17
Length, yards	5, 200					
Square yards		5, 400	40, 800			
Hooks, baits, or snoods				302	11, 500	4, 400

Items	Fyke nets	Otter trawls, shrimp	Spears	Tongs	By hand	Total, exclusive of duplication
Fishermen:	*Number*	*Number*	*Number*	*Number*	*Number*	*Number*
On vessels		50		12		202
On boats and shore:						
Regular		310	77	235	4	610
Casual	24					46
Total	24	360	77	247	4	858
Vessels:						
Motor—						
5 to 10 tons		20		4		30
11 to 20 tons		3				12
31 to 40 tons						1
61 to 70 tons						1
Total vessels		23		4		44
Total net tonnage		187		27		487
Boats:						
Motor	4	155		83		260
Other	24			117		271
Apparatus:						
Number	96	178	77	245		
Yards at mouth		2, 268				

Fisheries of Alabama, 1928—Continued

CATCH: BY GEAR

Species	Haul seines, common		Gill nets, set		Trammel nets	
	Pounds	*Value*	*Pounds*	*Value*	*Pounds*	*Value*
Angelfish	2,252	$88			938	$39
Bluefish	26,296	1,779			5,168	309
Blue runner or hardtail	12,385	494			9,695	388
Catfish and bullheads	2,233	126			6,939	300
Crevalle	1,300	39			4,500	134
Croaker	5,750	174			40,578	1,283
Drum, black	1,928	97			5,775	225
Drum, red, or redfish	20,856	1,666			28,551	2,292
Flounders	2,780	278			4,364	441
King whiting or "kingfish"					900	27
Mullet	761,374	30,453			1,356,967	54,425
Pompano	2,006	368			3,448	59
Sheepshead, salt-water	12,647	1,002			24,731	1,99
Snook or sergeantfish	22	2				
Spanish mackerel	4,339	403				
Spot	4,650	139			6,183	148
Squeteague or "sea trout"	24,941	2,597			86,317	8,709
Sturgeon			9,666	$2,100		
Total	885,759	39,705	9,666	2,100	1,585,054	71,310

Species	Lines						Fyke nets	
	Hand		Trot with hooks		Trot with baits or snoods			
	Pounds	*Value*	*Pounds*	*Value*	*Pounds*	*Value*	*Pounds*	*Value*
Black bass							1,067	$127
Buffalofish							37,686	1,507
Catfish and bullheads			81,885	$4,912			20,000	1,200
Groupers	198,501	$7,124						
Jewfish	3,400	121						
Paddlefish			2,641	158				
Pompano	60	15						
Sheepshead, salt-water	150	12						
Snapper, red	1,300,522	118,655						
Squeteague or "sea trout"	14,000	1,400						
Sunfish							1,725	69
Tripletail	1,600	160						
Crabs, hard					99,200	$4,160		
Total	1,518,233	127,487	84,526	5,070	99,200	4,160	60,478	2,903

Species	Otter trawls, shrimp		Spears		Tongs		By hand	
	Pounds	*Value*	*Pounds*	*Value*	*Pounds*	*Value*	*Pounds*	*Value*
Flounders			26,687	$2,775				
Crabs, soft							3,200	$800
Crabs, hard	2,636	$66						
Shrimp	5,972,489	179,174						
Oysters, market, private					143,976	$10,284		
Oysters, market, public					4,074,147	140,823		
Terrapin					429	138		
Total	5,975,125	179,240	26,687	2,775	4,218,552	151,245	3,200	800

Fisheries of Alabama, 1928—Continued

OPERATING UNITS: BY COUNTIES

Items	Baldwin	Mobile
	Number	*Number*
Fishermen:		
On vessels	30	172
On boats or shore—		
Regular	102	508
Casual		46
Total	132	726
Vessels:		
Motor—		
5 to 10 tons	6	24
11 to 20 tons	2	10
31 to 40 tons		1
61 to 70 tons		1
Total vessels	8	36
Total net tonnage	72	415
Boats:		
Motor	32	228
Other	67	204

Items	Baldwin	Mobile
	Number	*Number*
Apparatus:		
Haul seines, common	2	13
Length, yards	750	4,450
Gill nets, set	20	12
Square yards	3,000	2,400
Trammel nets	64	72
Square yards	19,200	21,600
Lines—		
Hand		160
Hooks		302
Trot with hooks	6	112
Hooks	500	11,000
Trot with baits or snoods	10	7
Baits or snoods	3,000	1,400
Fyke nets		96
Otter trawls, shrimp	14	164
Yards at mouth	184	2,084
Spears	16	61
Tongs	38	207

CATCH: BY COUNTIES

Species	Baldwin		Mobile	
	Pounds	*Value*	*Pounds*	*Value*
Angelfish	1,222	$48	1,968	$79
Black bass			1,067	127
Bluefish	4,365	261	27,099	1,827
Blue runner or hardtail	3,312	132	18,768	750
Buffalofish			37,686	1,507
Catfish and bullheads	5,834	306	105,223	6,232
Crevalle	920	27	4,880	146
Croaker	22,517	682	23,811	775
Drum, black	3,189	122	4,514	200
Drum, red, or redfish	20,517	1,661	28,890	2,297
Flounders	9,186	1,029	24,645	2,465
Groupers			198,501	7,124
Jewfish			3,400	121
King whiting or "kingfish"	400	12	500	15
Mullet	661,057	26,590	1,457,284	58,288
Paddlefish			2,641	158
Pompano	4,280	675	1,234	306
Sheepshead, salt-water	25,612	2,054	11,916	952
Snapper, red			1,300,522	118,655
Snook or sergeantfish			22	2
Spanish mackerel	2,400	192	1,939	211
Spot	6,009	180	4,824	107
Squeteague or "sea trout"	33,855	3,463	91,403	9,243
Sturgeon	5,666	1,700	4,000	400
Sunfish			1,725	69
Tripletail			1,600	160
Crabs, soft			3,200	800
Crabs, hard	32,000	2,000	69,836	2,226
Shrimp	478,711	14,362	5,493,778	164,812
Oysters, market, private			143,976	10,284
Oysters, market, public	328,933	26,290	3,745,224	114,533
Terrapin	342	114	87	24
Total	1,650,317	81,900	12,816,163	504,895

INDUSTRIES RELATED TO THE FISHERIES

Transporting trade.—In 1928 there were six persons in Alabama engaged in transporting the catch of fishery products. In this trade, two motor vessels having a total capacity of 32 net tons, and one sailing vessel having a capacity of 7 net tons were operated.

Wholesale trade.—There were 17 wholesale establishments in Alabama engaged chiefly in handling fresh and frozen fishery products. This is 7 per cent of the total number of such establishments in the Gulf section. These employed 143 persons, who received $167,110 in salaries and wages. All of these establishments were located i Mobile County.

Prepared and by-products trade.—There were seven establishment in Alabama in 1928 engaged primarily in the manufacture of prepare fishery products or by-products. This is 7 per cent of the tota number in the Gulf section. They employed 217 persons, wh received $149,807 in salaries and wages. The products manufactured, consisting principally of canned shrimp and oysters, wer valued at $640,772. Detailed statistics of most of the items manufactured may be obtained from Fishery Industries of the Unite States, 1928, Bureau of Fisheries Document No. 1067.

In addition to the above, 8,866 pounds of fishery products, value at $720, were prepared by the fishermen. These consisted mostly o salted mullet and mullet roe.

Industries related to the fisheries of Alabama, 1928

TRANSPORTING

Items	Number	Items	Number
Men on transporting vessels	6	Transporting vessels—Continued	
Transporting vessels:		Sail	
Motor—		Net tonnage	
11 to 20 tons	2	Total vessels	
Net tonnage	32	Total net tonnage	3

WHOLESALE FISHERY TRADE

Items	Mobile County	Items	Mobile County
Establishments	17	Paid to salaried employees	$97, 55
Persons engaged:		Paid to wage earners	69, 55
Proprietors	23	Total salaries and wages	167, 11
Salaried employees	14		
Wage earners	106		

PREPARED FISHERY PRODUCTS AND BY-PRODUCTS

Items	Number	Products [1]	Quantity	Value
Establishments	7	Salted mullet pounds	222, 000	$16, 94
Persons engaged:		Canned:		
Proprietors	10	Oysters standard cases [2]	32, 978	176, 33
Salaried employees	12	Shrimp—		
Wage earners	195	Dry pack do	51, 911	311, 26
		Wet pack do	15, 117	89, 81
Paid to salaried employees	$32, 680	Oyster shell products tons	6, 028	43, 14
Paid to wage earners	117, 127	Other products [3] pounds	11, 300	3, 27
Total salaries and wages	149, 807	Total		640, 77

PRODUCTS PREPARED BY THE FISHERMEN

Items	Pounds	Value
Fresh sturgeon roe	266	$20
Salted:		
Mullet	8, 000	40
Mullet roe	600	12
Total	8, 866	72

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[1] Includes a small amount of salted and packaged products prepared by 4 firms whose activities wer principally in the wholesale fishery trade.

[2] A standard case contains forty-eight 5-ounce cans of oysters, forty-eight 5-ounce cans in the dry pack, forty-eight 5¾-ounce cans in the wet pack of shrimp.

[3] Includes salted mullet roe and packaged grouper tenderloins.

MISSISSIPPI

The fisheries of Misissippi in 1928 employed 13 per cent of the total number of fishermen and accounted for 16 per cent of the total catch of the Gulf section. The fisheries and industries related to the fisheries employed 3,231 persons, which is 14 per cent less than the number in 1927. Of the total, 2,203 were fishermen, 4 were employed on transporting vessels, 233 in the wholesale trade, and 791 in the prepared-products and by-products industries.

The total catch amounted to 30,700,669 pounds, valued at $1,060,066. This is a decrease of 11 per cent in the catch and 16 per cent in the value of the catch, compared with the catch and its value for 1927. Of the total value of the catch, that for oysters accounted for 47 per cent; shrimp, 36 per cent; crabs, 5 per cent; and squeteagues or "sea trout," 4 per cent. Of the total production, that of oysters accounted for 50 per cent; shrimp, 38 per cent; and crabs, 5 per cent.

OPERATING UNITS BY GEAR

The catch of fishery products in Mississippi during 1928 was taken by 2,203 fishermen, who used 97 motor vessels, 44 sailing vessels, 1,079 motor and other boats, and 10 major types of gear. The motor and sailing vessels had a combined capacity of 1,852 net tons. The fisheries accounting for the greatest number of persons were the otter-trawl fishery, employing 1,122 fishermen, and the oyster-dredge fishery, employing 803 fishermen.

CATCH BY GEAR

Four types of gear caught 93 per cent of the fish taken in the marine fisheries of Mississippi during 1928. Listed in order of their importance they were: Dredges, which accounted for 41 per cent of the catch; otter trawls, 37 per cent; tongs, 9 per cent; and lines, 6 per cent.

The catch by both dredges and tongs consisted entirely of oysters, that by otter trawls principally shrimp, and that by lines principally hard crabs.

OPERATING UNITS BY COUNTIES

Only three counties in Mississippi are represented in the marine fisheries. Harrison was by far the most important of these, accounting for 87 per cent of the total number of fishermen, 99 per cent of the vessels, and 81 per cent of the small fishing boats. Jackson County ranked second with 9 per cent of the fishermen, 1 per cent of the vessels, and 15 per cent of the small fishing boats.

CATCH BY COUNTIES

Of the three counties represented in the marine fisheries of Mississippi, Harrison County accounted for 87 per cent of the total catch and 85 per cent of the value of the catch. Jackson County ranked second with 11 per cent of the catch and 12 per cent of the value, and Hancock followed with 2 per cent of the catch and 3 per cent of the value.

Fisheries of Mississippi, 1928

OPERATING UNITS: BY GEAR

Items	Haul seines, common	Trammel nets	Lines		Dip nets, common	Dip nets drop
			Hand	Trot with baits or snoods		
Fishermen:	*Number*	*Number*	*Number*	*Number*	*Number*	*Number*
On vessels	23	4	6			
On boats and shore, regular	118	113	99	105	30	2
Total	141	117	105	105	30	2
Vessels:						
Motor—						
5 to 10 tons		1	1			
11 to 20 tons	1					
Total	1	1	1			
Net tonnage	16	10	8			
Sail, 5 to 10 tons	2					
Total	2					
Net tonnage	18					
Total vessels	3	1	1			
Total net tonnage	34	10	8			
Boats:						
Motor	24	44	13	23		
Other	11	82	77	80		
Apparatus:						
Number	27	86	105	105	60	40
Length, yards	6, 700					
Square yards		27, 396				
Hooks, baits, or snoods			121	35, 588		

Items	Cast nets	Otter trawls, shrimp	Spears	Dredges, oyster	Tongs	By hand	Total, exclusive of duplication
Fishermen:	*Number*	*Number*	*Number*	*Number*	*Number*	*Number*	*Number*
On vessels		314		711	4		75
On boats and shore—							
Regular	35	808	111	92	566	86	1, 44
Casual			7			6	
Total	35	1, 122	118	803	570	92	2, 20
Vessels:							
Motor—							
5 to 10 tons		31		34	1		4
11 to 20 tons		29		44			4
21 to 30 tons		1		1			
Total		61		79	1		9
Net tonnage		676		941	6		1, 10
Sail—							
5 to 10 tons		1		7			
11 to 20 tons		3		31			3
21 to 30 tons				4			
31 to 40 tons		1		1			
41 to 50 tons				1			
Total		5		44			4
Net tonnage		98		747			74
Total vessels		66		123	1		14
Total net tonnage		774		1, 688	6		1, 85
Boats:							
Motor		404		18	104		55
Other	35			2	365		52
Apparatus:							
Number	35	470	118	266	570		
Yards at mouth		5, 697		327			

Fisheries of Mississippi, 1928—Continued

CATCH: By GEAR

Species	Haul seines, common		Trammel nets		Lines			
					Hand		Trot with baits or snoods	
	Pounds	*Value*	*Pounds*	*Value*	*Pounds*	*Value*	*Pounds*	*Value*
Bluefish	20,522	$1,231	6,141	$323				
Blue runner or hardtail			4,000	120				
Cabio or crab eater	1,000	30	1,350	51	2,000	$60	600	$18
Catfish and bullheads	4,200	130	44,784	1,816	32,000	1,440	9,600	288
Crevalle			2,300	71				
Croaker	2,200	70	32,740	1,360	12,000	600	8,400	252
Drum, black	16,413	815	40,700	1,705	1,600	80	3,840	115
Drum, red, or redfish	24,866	1,785	170,840	15,840	8,542	738	2,940	294
Flounders	5,912	591	11,878	1,323	700	105		
Groupers					49,300	1,479		
Jewfish					5,700	171		
Kingfish or "king mackerel"			1,000	40				
King whiting or "kingfish"	5,130	205	11,891	402	2,000	100	15,000	450
Mullet	515,411	18,039	285,935	9,669				
Pigfish			1,300	49				
Pompano	1,310	196	2,669	443				
Sea bass	918	92	3,062	287			4,800	480
Sheepshead, salt-water	25,455	1,543	47,233	4,300	3,341	277	3,840	384
Snapper, red					97,328	8,036		
Spadefish	944	28	2,476	87				
Spanish mackerel	1,500	150	5,022	566	800	160	1,920	288
Spot	200	8	16,100	696			9,600	288
Squeteagues	20,607	2,091	255,883	27,285	201,007	16,080	10,000	1,400
Crabs, hard							1,422,839	31,669
Crabs, soft							40,000	3,000
Shrimp	514,920	18,068						
Total	1,161,508	45,072	947,304	66,433	416,318	29,326	1,533,379	38,926

Species	Dip nets, common		Dip nets, drop		Cast nets	
	Pounds	*Value*	*Pounds*	*Value*	*Pounds*	*Value*
Croaker					1,000	$50
Drum, red, or redfish					800	80
Mullet					1,200	48
Sheepshead, salt-water					400	40
Crabs, hard	24,000	$1,800	64,800	$4,320		
Shrimp					17,300	1,384
Total	24,000	1,800	64,800	4,320	20,700	1,602

Species	Otter trawls, shrimp		Spears		Dredges		Tongs		By hand	
	Pounds	*Value*	*Pounds*	*Value*	*Pounds*	*Value*	*Pounds*	*Value*	*Pounds*	*Value*
Flounders			48,520	$6,408						
Sharks	6,000	$180								
Crabs, hard									6,000	$2,000
Crabs, soft									26,816	9,016
Shrimp	11,234,305	357,796								
Oysters:										
Market, public, Mississippi					4,113,200	$125,830	2,259,446	$120,435		
Market, public, Louisiana					7,661,248	228,348				
Market, private, Mississippi					69,300	6,150	89,880	9,460		
Seed, public, Mississippi					709,149	4,654	307,398	1,858		
Terrapin									1,398	452
Total	11,240,305	357,976	48,520	6,408	12,552,897	364,982	2,656,724	131,753	34,214	11,468

Fisheries of Mississippi, 1928—Continued

OPERATING UNITS: BY COUNTIES

Items	Hancock	Harrison	Jackson
	Number	*Number*	*Number*
Fishermen:			
On vessels		743	10
On boats and shore—			
Regular	66	1,179	198
Casual	6		1
Total	72	1,922	209
Vessels:			
Motor—			
5 to 10 tons		45	2
11 to 20 tons		49	
21 to 30 tons		1	
Total		95	2
Net tonnage		1,087	18
Sail—			
5 to 10 tons		7	
11 to 20 tons		31	
21 to 30 tons		4	
31 to 40 tons		1	
41 to 50 tons		1	
Total		44	
Net tonnage		747	
Total vessels		139	2
Total net tonnage		1,834	18
Boats:			
Motor	8	489	56
Other	36	381	109
Apparatus:			
Haul seines, common		16	11
Yards		3,500	3,200
Trammel nets	11	45	30
Square yards	4,033	14,363	9,000
Lines—			
Hand	20	57	28
Hooks	20	57	44
Trot with baits or snoods		91	14
Baits or snoods		25,700	9,888
Dip nets—			
Common		60	
Drop	400		
Cast nets	25	10	
Otter trawls, shrimp		447	23
Yards at mouth		5,422	275
Spears	6	80	32
Dredges, oyster		266	
Yards at mouth		327	
Tongs	22	462	86

CATCH: BY COUNTIES

Species	Hancock		Harrison		Jackson	
	Pounds	*Value*	*Pounds*	*Value*	*Pounds*	*Value*
Bluefish			2,215	$88	24,448	$1,469
Blue runner or hardtail			4,000	120		
Cabio or crab eater			1,800	54	3,150	105
Catfish and bullheads	29,400	$1,470	41,784	1,553	19,400	651
Crevalle			2,100	63	200	8
Croaker	21,000	1,050	30,690	1,121	4,650	161
Drum, black	13,500	675	26,774	905	22,279	1,135
Drum, red, or redfish	42,300	4,230	112,664	10,667	53,024	3,840
Flounders	8,320	1,248	39,650	5,235	19,040	1,944
Groupers					49,300	1,479
Jewfish					5,700	171
Kingfish or "king mackerel"			1,000	40		
King whiting or "kingfish"	1,660	83	24,913	777	7,448	297
Mullet	4,400	176	63,067	1,928	735,079	25,652
Pigfish			300	9	1,000	40
Pompano	110	27	919	163	2,950	449
Sea bass	220	33	6,300	600	2,260	226
Sharks			6,000	180		

Fisheries of Mississippi, 1928—Continued

CATCH: BY COUNTIES—Continued

Species	Hancock		Harrison		Jackson	
	Pounds	*Value*	*Pounds*	*Value*	*Pounds*	*Value*
Sheepshead, salt water	18, 100	$1, 810	28, 524	$2, 672	33, 645	$2, 062
Snapper, red					97, 328	8, 036
Spadefish			1, 400	52	2, 020	63
Spanish mackerel	500	100	6, 542	834	2, 200	230
Spot	7, 700	385	16, 900	555	1, 300	52
Squeteagues	77, 240	8, 872	195, 198	21, 816	215, 059	16, 168
Crabs, hard	64, 800	4, 320	1, 164, 400	29, 660	288, 439	5, 809
Crabs, soft	3, 456	1, 296	60, 960	9, 820	2, 400	900
Shrimp	12, 500	1, 000	10, 848, 720	348, 239	905, 305	28, 009
Oysters:						
Market, public, Mississippi	141, 120	8, 400	5, 596, 255	210, 897	635, 271	26, 968
Market, public, Louisiana			7, 661, 248	228, 348		
Market, private, Mississippi			159, 180	15, 610		
Seed, public, Mississippi			709, 149	4, 654	307, 398	1, 858
Terrapin			1, 398	452		
Total	446, 326	35, 175	26, 814, 050	897, 112	3, 440, 293	127, 779

INDUSTRIES RELATED TO THE FISHERIES

Transporting trade.—In 1928 there were 4 persons in Mississippi engaged in transporting the catch of fish. In this trade, 2 motor vessels having a total capacity of 19 net tons were operated.

Wholesale trade.—There were 26 wholesale establishments on the coast of Mississippi engaged chiefly in handling fresh and frozen fishery products. This is 10 per cent of the total number of such establishments in the Gulf section. These establishments employed 233 persons who received $121,295 in salaries and wages. There were 19 of these establishments located in Harrison County.

Prepared and by-products trade.—There were 23 establishments on the coast of Mississippi during 1928 engaged primarily in the manufacture of prepared fishery products or by-products. This is 24 per cent of the total number in the Gulf section. They employed 791 persons who received $499,794 in salaries and wages. The products manufactured, consisting principally of canned oysters and shrimp, were valued at $1,899,999. Detailed statistics of most of the items manufactured may be obtained from Fishery Industries of the United States, 1928, Bureau of Fisheries Document No. 1067.

In addition to the above, 84,824 pounds of salted mullet and mullet roe valued at $4,723 were prepared by the fishermen.

Industries related to the fisheries of Mississippi, 1928

TRANSPORTING

Items	Number
Men on transporting vessels	4
Transporting vessels:	
Motor—	
5 to 10 tons	1
11 to 20 tons	1
Total vessels	2
Total net tonnage	19

Industries related to the fisheries of Mississippi, 1928—Continued

WHOLESALE FISHERY TRADE

Items	Harrison County	Jackson and Hancock Counties	Total
Establishments	19	7	2
Persons engaged:			
Proprietors	24	9	3
Salaried employees	11	4	1
Wage earners	150	35	18
Paid to salaried employees	$17, 698	$10, 870	$28, 56
Paid to wage earners	68, 464	24, 263	92, 72
Total salaries and wages paid	86, 162	35, 133	121, 29

PREPARED FISHERY PRODUCTS AND BY-PRODUCTS

Items	Number	Products [1]	Quantity	Value
Establishments	23	Salted:		
Persons engaged:		Mullet ... pounds	261, 323	$20, 28
Proprietors	37	Mullet roe ... do	2, 375	59
Salaried employees	57	Canned:		
Wage earners	697	Oysters ... standard cases [2]	205, 115	1, 119, 12
		Shrimp—		
Paid to salaried employees	$151, 357	Dry pack ... do	54, 429	302, 68
Paid to wage earners	348, 437	Wet pack ... do	55, 487	324, 26
		Oyster shell products:		
Total salaries and wages paid	499, 794	Poultry feed ... tons	15, 684	131, 76
		Other products [3]		1, 28
		Total		1, 899, 99

PRODUCTS PREPARED BY THE FISHERMEN

Salted	Pounds	Value
Mullet	84, 424	$4, 64
Mullet roe	400	8
Total	84. 824	4, 72

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[1] Includes the salted mullet roe and canned shrimp prepared by three firms whose activities were principally in the wholesale fishery trade.

[2] A standard case contains forty-eight 5-ounce cans of oysters; forty-eight 5-ounce cans in the dry pack, or forty-eight 5¾-ounce cans in the wet pack of shrimp.

[3] Includes lime from oyster shells and canned crabs.

LOUISIANA

In 1928 the fisheries of Louisiana ranked first among the States bordering on the Gulf of Mexico with respect to the volume of the catch, employing 32 per cent of the total number of fishermen and accounting for 36 per cent of the total catch. The fisheries and industries related to the fisheries employed 6,806 persons which is 4 per cent less than the number in 1927. Of the total, 5,152 were fishermen, 28 were employed on transporting vessels, 324 in the wholesale trade, and 1,302 in the prepared-products and by-products industries.

The total catch amounted to 69,506,979 pounds, valued at $3,477,866. This is an increase of 24 per cent in the catch and 21 per cent in the value of the catch, compared with the catch and its value for

1927. Of the total value of the catch, that for shrimp accounting for 62 per cent; oysters, 27 per cent; and crabs, 4 per cent. Of the total production, shrimp accounted for 77 per cent; oysters, 16 per cent; and crabs 4 per cent.

OPERATING UNITS BY GEAR

The catch of fishery products on the coast of Louisiana during 1928 was taken by 5,152 fishermen who used 185 motor vessels, 3 sailing vessels, 2,709 motor and other boats, and 7 major types of gear. The motor and sailing vessels had a combined capacity of 1,390 net tons. The fisheries accounting for the greatest number of persons were the otter-trawl fishery employing 2,341 fishermen and the haul-seine fishery with 1,700 fishermen.

CATCH BY GEAR

Three types of gear caught 88 per cent of the fish taken in the marine fisheries of Louisiana during 1928. Listed in order of their importance they were otter trawls, which accounted for 60 per cent of the catch; haul seines, 19 per cent; and tongs, 9 per cent.

The catch by otter trawl consisted entirely of shrimp, that by haul seines principally shrimp, and that by tongs exclusively oysters.

OPERATING UNITS BY PARISHES

Terrebonne Parish was foremost in the number of persons fishing, accounting for 22 per cent of the total. Jefferson Parish followed with 21 per cent. Other parishes employing a considerable number of fishermen listed in order of their importance in this respect were La Fourche, St. Bernard, and Plaquemines. La Fourche Parish accounted for 32 per cent of the total number of fishing vessels and Terrebonne Parish 27 per cent. Terrebonne Parish led in the number of small motor and other types of fishing boats, accounting for 25 per cent of the total. Jefferson Parish followed with 20 per cent.

CATCH BY PARISHES

Fishing was prosecuted in the marine waters of 14 parishes of Louisiana in 1928. Ranked according to value, the fisheries of Terrebonne Parish were most important, accounting for 24 per cent of the total catch and 22 per cent of the total value of the catch. Jefferson Parish ranked second with 24 per cent of the total catch and 20 per cent of the value. Other important parishes listed in order with respect to value of the catch were La Fourche, Plaquemines, and Orleans.

Fisheries of Louisiana, 1928

OPERATING UNITS: BY GEAR

Items	Haul seines	Trammel nets	Lines		Dip nets, drop
			Hand	Trot with baits or snoods	
	Number	*Number*	*Number*	*Number*	*Number*
Fishermen:					
On vessels	----	6	----	----	----
On boats and shore—					
Regular	1, 700	202	317	343	12
Casual	----	----	25	----	5
Total	1, 700	208	342	343	17
Vessels:					
Motor—					
5 to 10 tons	----	2	----	----	----
11 to 20 tons	----	1	----	----	----
Total	----	3	----	----	----
Net tonnage	----	23	----	----	----
Boats:					
Motor	269	100	67	65	
Other	283	99	326	293	17
Apparatus:					
Number	292	103	342	293	11, 34
Length, yards	56, 665	----	----	----	----
Square yards	----	26, 299	----	----	----
Hooks, baits, or snoods	----	----	347	71, 350	----

Items	Otter trawls, shrimp	Dredges	Tongs	By hand	Total, exclusive of duplicatio
	Number	*Number*	*Number*	*Number*	*Number*
Fishermen:					
On vessels	247	133	195	----	50
On boats and shore—					
Regular	2, 094	59	418	12	4, 57
Casual	----	----	----	----	7
Total	2, 341	192	613	12	5, 15
Vessels:					
Motor—					
5 to 10 tons	100	28	67	----	16
11 to 20 tons	6	5	8	----	2
21 to 30 tons	1	----	----	----	
Total	107	33	75	----	18
Net tonnage	733	269	541	----	1, 36
Sail—					
5 to 10 tons	----	1	----	----	
11 to 20 tons	1	2	----	----	
Total	1	3	----	----	3
Net tonnage	12	30	----	----	3
Total vessels	108	36	75	----	18
Total net tonnage	745	299	541	----	1, 39
Boats:					
Motor	1, 043	14	164	----	1, 54
Other	----	12	157	12	1, 16
Apparatus:					
Number	1, 151	86	611	----	----
Yards at mouth	14, 717	90	----	----	----

Fisheries of Louisiana, 1928—Continued

CATCH: BY GEAR

Species	Haul seines		Trammel nets		Lines, hand	
	Pounds	*Value*	*Pounds*	*Value*	*Pounds*	*Value*
Angelfish	100	$6				
Bluefish	200	30				
Buffalofish	3, 200	310				
Catfish	279, 747	14, 159	23, 100	$1, 121	37, 350	$1, 794
Croaker	56, 860	2, 971	55, 700	2, 722	55, 940	2, 863
Drum, black	82, 900	4, 669	62, 200	3, 251	18, 200	800
Drum, red, or redfish	146, 905	17, 105	205, 277	21, 465	81, 392	8, 168
Flounders	5, 395	794	5, 775	676	1, 725	172
Garfish	6, 000	600	3, 000	300		
Groupers					500	30
Jewfish					2, 000	120
King whiting or "kingfish"	22, 995	1, 006	24, 300	1, 049	14, 255	591
Mullet	11, 000	510	12, 100	455		
Pompano	1, 021	181	829	123		
Sea bass	1, 500	150				
Sheepshead, salt-water	50, 519	6, 062	38, 870	4, 007	18, 801	1, 860
Snapper, red					48, 000	6, 720
Spanish mackerel	16, 557	2, 366	5, 314	703	300	15
Spot	19, 500	1, 030	13, 750	625	1, 600	168
Squeteague or "sea trout"	249, 147	32, 431	343, 775	40, 852	291, 608	35, 748
Yellowtail					2, 800	112
Shrimp	12, 371, 340	496, 246				
Terrapin	42, 441	14, 316				
Total	13, 367, 327	594, 942	793, 990	77, 349	574, 471	59, 161

Species	Lines, trot with baits or snoods		Dip nets, drop		Otter trawls, shrimp	
	Pounds	*Value*	*Pounds*	*Value*	*Pounds*	*Value*
Crabs, hard	2, 099, 010	$59, 366	221, 120	$19, 244		
Crabs, soft			182, 960	52, 424		
Shrimp			15, 600	7, 800	41, 392, 463	$1, 655, 313
Total	2, 099, 010	59, 366	419, 680	79, 468	41, 392, 463	1, 655, 313

Species	Dredges		Tongs		By hand	
	Pounds	*Value*	*Pounds*	*Value*	*Pounds*	*Value*
Oysters, market, public	1, 424, 213	$42, 858	81, 900	$10, 575		
Oysters, market, private	3, 262, 630	316, 878	6, 079, 920	576, 456		
Terrapin					11, 375	$5, 500
Total	4, 686, 843	359, 736	6, 161, 820	587, 031	11, 375	5, 500

OPERATING UNITS: BY PARISHES

Items	Ascension	Cameron	Iberia	Jeff Davis	Jefferson	La Fourche	Orleans
Fishermen:	*Number*	*Number*	*Number*	*Number*	*Number*	*Number*	*Number*
On vessels					29	164	51
On boats and shore—							
Regular	7	7	35	2	1, 014	598	321
Casual					25		
Total	7	7	35	2	1, 068	762	372
Vessels:							
Motor—							
5 to 10 tons					10	56	12
11 to 20 tons					1	5	4
21 to 30 tons					1		
Total					12	61	16
Net tonnage					109	431	137

Fisheries of Louisiana, 1928—Continued

OPERATING UNITS: BY PARISHES—Continued

Items	Ascension	Cameron	Iberia	Jeff Davis	Jefferson	La Fourche	Orlea
	Number	*Number*	*Number*	*Number*	*Number*	*Number*	*Numb*
Boats:							
Motor	2	3	10	1	292	236	1
Other	2	1	10		243	69	
Apparatus:							
Haul seines		1			78	18	
Length, yards		150			13, 284	4, 050	2, 0
Trammel nets			5		10	6	
Square yards			1, 111		2, 090	1, 800	3, 0
Lines—							
Hand					50		
Hooks					50		
Trot with baits or snoods					110	32	
Baits or snoods					19, 250	5, 300	
Dip nets, drop							5, 0
Otter trawls, shrimp				1	237	225	
Yards at mouth				12	3, 092	2, 835	1, 0
Dredges						10	
Yards at mouth						11	
Tongs	7	4	25		31	191	

Items	Plaquemines	St. Bernard	St. Mary	St. Tammany	Tangipahoa	Terrebonne	Ver-milio
	Number	*Number*	*Number*	*Number*	*Number*	*Number*	*Numb*
Fishermen:							
On vessels	79	38	31	4		110	
On boats and shore—							
Regular	656	660	113	65	5	1, 034	
Casual		50					
Total	735	748	144	69	5	1, 144	
Vessels:							
Motor—							
5 to 10 tons	21	4	12	1		48	
11 to 20 tons	3	2	1	1		3	
Total	24	6	13	2		51	
Net tonnage	170	56	106	22		329	
Sail—							
5 to 10 tons		1					
11 to 20 tons		2					
Total		3					
Net tonnage		30					
Total vessels	24	9	13	2		51	
Total net tonnage	170	86	106	22		329	
Boats:							
Motor	217	196	44	8		401	
Other	114	285	26	45	5	281	
Apparatus:							
Haul seines	20	39	3	4		111	
Length, yards	5, 150	11, 300	600	726		17, 905	1, 4
Trammel nets	26	19	5	1		16	
Square yards	4, 328	5, 583	1, 750	267		5, 920	4
Lines—							
Hand	35	134		30		80	
Hooks	35	134		30		80	
Trot with baits or snoods	20	116	12		3		
Baits or snoods	2, 700	34, 000	9, 500		600		
Dip nets, drop		5, 420		525	80	250	
Otter trawls, shrimp	143	99	39	5		315	
Yards at mouth	1, 852	1, 294	487	63		3, 959	1
Dredges	29	17	9			2	
Yards at mouth	29	20	9			2	
Tongs	104		26	10		189	

Fisheries of Louisiana, 1928—Continued

CATCH: BY PARISHES

Species	Ascension		Cameron		Iberia		Jeff Davis	
	Pounds	*Value*	*Pounds*	*Value*	*Pounds*	*Value*	*Pounds*	*Value*
Catfish	-------	-------	-------	-------	2, 000	$160	-------	-------
Croaker	-------	-------	-------	-------	3, 000	240	-------	-------
Drum, black	-------	-------	-------	-------	3, 500	280	-------	-------
Drum, red, or redfish	-------	-------	-------	-------	8, 000	800	-------	-------
Flounders	-------	-------	-------	-------	600	60	-------	-------
Sheepshead, salt-water	-------	-------	-------	-------	900	72	-------	-------
Squeteague or "sea trout"	-------	-------	-------	-------	13, 500	1, 350	-------	-------
Shrimp	-------	-------	10, 000	$600	-------	-------	8, 000	$480
Oysters:								
Market, public	-------	-------	10, 500	1, 125	-------	-------	-------	-------
Market, private	31, 500	$4, 500	-------	-------	115, 500	16, 500	-------	-------
Total	31, 500	4, 500	20, 500	1, 725	147, 000	19, 462	8, 000	480

Species	Jefferson		La Fourche		Orleans		Plaquemines	
	Pounds	*Value*	*Pounds*	*Value*	*Pounds*	*Value*	*Pounds*	*Value*
Catfish	13, 400	$491	200	$10	15, 100	$872	12, 500	$500
Croaker	9, 400	376	600	30	21, 800	1, 484	42, 750	1, 710
Drum, black	28, 400	1, 136	5, 900	295	7, 300	401	21, 800	872
Drum, red, or redfish	40, 400	4, 900	24, 000	2, 400	29, 800	3, 321	84, 350	8, 435
Flounders	-------	-------	100	10	450	58	2, 750	275
Groupers	-------	-------	-------	-------	500	30	-------	-------
Jewfish	-------	-------	-------	-------	2, 000	120	-------	-------
King whiting or "kingfish"	22, 200	888	1, 500	75	2, 000	98	18, 700	748
Mullet	4, 000	120	-------	-------	4, 000	200	5, 500	165
Pompano	200	49	100	15	200	40	200	30
Sea bass	1, 500	150	-------	-------	-------	-------	-------	-------
Sheepshead, salt-water	9, 000	666	3, 500	350	9, 100	1, 176	16, 950	1, 695
Snapper, red	-------	-------	-------	-------	48, 000	6, 720	-------	-------
Spanish mackerel	800	120	200	20	200	30	900	90
Spot	3, 300	132	-------	-------	3, 600	174	5, 300	212
Squeteague or "sea trout"	153, 300	13, 993	26, 500	2, 525	52, 400	8, 180	173, 100	19, 631
Yellowtail	2, 800	112	-------	-------	-------	-------	-------	-------
Crabs, hard	1, 040, 000	26, 000	240, 000	4, 650	126, 400	11, 880	264, 000	4, 900
Crabs, soft	-------	-------	-------	-------	60, 800	26, 600	-------	-------
Shrimp	15, 085, 675	603, 431	9, 529, 852	381, 194	2, 928, 255	117, 129	5, 834, 146	233, 365
Oysters:								
Market, public	-------	-------	28, 749	821	4, 200	600	38, 850	1, 850
Market, private	215, 481	20, 522	2, 439, 661	232, 349	1, 601, 271	152, 502	3, 199, 434	304, 708
Terrapin	25, 520	10, 235	-------	-------	-------	-------	11, 375	5, 500
Total	16, 655, 376	683, 321	12, 300, 862	624, 744	4, 917, 376	331, 615	9, 732, 605	584, 686

Species	St. Bernard		St. Mary		St. Tammany	
	Pounds	*Value*	*Pounds*	*Value*	*Pounds*	*Value*
Angelfish	-------	-------	-------	-------	100	$6
Bluefish	-------	-------	-------	-------	100	20
Buffalofish	200	$10	-------	-------	3, 000	300
Catfish	87, 150	4, 193	-------	-------	11, 500	920
Croaker	79, 500	3, 815	2, 500	$120	1, 000	150
Drum, black	31, 250	1, 472	1, 800	144	650	65
Drum, red, or redfish	67, 250	7, 316	6, 000	600	9, 200	1, 749
Flounders	6, 000	830	300	30	300	60
King whiting or "kingfish"	9, 200	438	-------	-------	150	9
Mullet	2, 000	100	-------	-------	5, 000	250
Pompano	300	45	-------	-------	200	60
Sheepshead, salt-water	36, 100	3, 610	400	32	8, 800	1, 699
Spanish mackerel	16, 550	2, 452	-------	-------	200	40
Spot	21, 450	1, 125	-------	-------	1, 200	180
Squeteagues or "sea trout"	225, 500	32, 225	9, 500	1, 235	48, 000	11, 560
Crabs, hard	429, 810	22, 861	178, 000	4, 450	20, 160	2, 016
Crabs, soft	109, 680	21, 144	-------	-------	8, 640	3, 240
Shrimp	4, 264, 002	177, 476	1, 279, 477	51, 690	117, 652	4, 706
Oysters:						
Market, public	1, 356, 614	40, 187	-------	-------	46, 200	6, 600
Market, private	-------	-------	370, 678	41, 454	-------	-------
Total	6, 742, 556	319, 299	1, 848, 655	99, 755	282, 052	33, 630

Fisheries of Louisiana, 1928—Continued.

CATCH: By parishes—Continued

Species	Tangipahoa		Terrebonne		Vermilion	
	Pounds	*Value*	*Pounds*	*Value*	*Pounds*	*Valu*
Bluefish			100	$10		
Catfish			197, 997	9, 900	350	$2
Croaker			6, 400	321	1, 550	3
Drum, black			53, 500	2, 675	9, 200	1, 38
Drum, red, or redfish			156, 974	15, 697	7, 600	1, 5
Flounders			1, 595	159	800	16
Garfish					9, 000	90
King whiting or "kingfish"			7, 800	390		
Mullet			2, 600	130		
Pompano			650	65		
Sheepshead, salt-water			17, 740	1, 774	5, 700	85
Spanish mackerel			3, 321	332		
Squeteagues or "sea trout"			175, 630	16, 912	7, 100	1, 4
Crabs, hard	11, 760	$1, 103	10, 000	750		
Crabs, soft	3, 840	1, 440				
Shrimp			14, 539, 994	580, 699	182, 350	8, 58
Oysters:						
Market, public					21, 000	2, 2
Market, private			1, 369, 025	120, 799		
Terrapin			16, 921	4, 081		
Total	15, 600	2, 543	16, 560, 247	754, 694	244, 650	17, 4

INDUSTRIES RELATED TO THE FISHERIES

Transporting trade.—In 1928 there were 28 persons in Louisian engaged primarily in transporting the catch of fish. In this trad there were 12 motor vessels having a combined capacity of 135 ne tons, and 1 sailing vessel having a capacity of 16 net tons. The siz of vessel in most popular use ranged from 5 to 10 net tons.

Wholesale trade.—There were 36 establishments in Louisiana en gaged chiefly in handling fresh and frozen fish. This is 14 per cent o the total number of such establishments in the Gulf section. Thes establishments employed 324 persons who received $286,116 i salaries and wages. Orleans Parish accounted for 18 of thes establishments.

Prepared and by-products trade.—There were 48 establishments i Louisiana in 1928 engaged primarily in the manufacture of prepare fishery products or by-products. This is 49 per cent of the tota number in the Gulf section. They employed 1,302 persons wh received $677,510 in salaries and wages. The products manu factured, consisting principally of canned shrimp and oyster-she products, were valued at $4,577,468. Detailed statistics of most o the items manufactured may be obtained from Fishery Industries o the United States, 1928, Bureau of Fisheries Document No. 1067.

Industries related to the fisheries of Louisiana, 1928

TRANSPORTING

Items	Number	Items	Numbe
Men on transporting vessels	28	Transporting vessels—Continued.	
Transporting vessels:		Sail	
Motor—		Net tonnage	
5 to 10 tons	8	Total vessels	
11 to 20 tons	3	Total net tonnage	1
41 to 50 tons	1		
Total	12		
Net tonnage	135		

Industries related to the fisheries of Louisiana, 1928—Continued

WHOLESALE FISHERY TRADE

Items	Jefferson	Orleans	Plaquemines and St. Bernard	St. Marys and Iberia	Terrebonne	Total
Establishments	4	18	4	3	7	36
Persons engaged:						
Proprietors	4	33	4	6	11	58
Salaried employees	1	23	----------	1	11	36
Wage earners	7	104	16	14	89	230
Paid to salaried employees	$2,400	$101,177	$2,110	$1,600	$23,454	$130,741
Paid to wage earners	5,780	94,015	10,040	5,799	39,741	155,375
Total salaries and wages	8,180	195,192	12,150	7,399	63,195	286,116

PREPARED FISHERY PRODUCTS AND BY-PRODUCTS

Items	Number
Establishments	48
Persons engaged:	
Proprietors	65
Salaried employees	103
Wage earners	1,134
Paid to salaried employees	$228,120
Paid to wage earners	449,390
Total salaries and wages	677,510

Products [1]	Quantity	Value
Canned:		
Oysters......standard cases [2]	34,091	$190,483
Shrimp—		
Dry pack..........do	220,690	1,336,208
Wet pack..........do	221,564	1,298,608
Oyster-shell products:		
Poultry feed..........tons	123,354	1,126,619
Lime..........do	10,130	17,392
Shrimp bran..........do	1,726	58,080
Dried shrimp..........do	1,082	542,376
Dried squeteague..........pounds	28,535	7,702
Total	----------	4,577,468

[1] Includes a small amount of shrimp bran prepared by one firm, whose activities were principally in the wholesale fishery trade.

[2] A standard case contains forty-eight 5-ounce cans of oysters; forty-eight 5-ounce cans in the dry pack, or forty-eight 5¾-ounce cans in the wet pack of shrimp.

TEXAS

The fisheries of Texas in 1928 employed 14 per cent of the total number of fishermen and accounted for 8 per cent of the total catch of the Gulf section. The fisheries and industries related to the fisheries employed 2,881 persons, which is 8 per cent greater than the number in 1927. Of the total, 2,347 were fishermen, 401 were employed in the wholesale trade, and 133 in the prepared-products and by-products industries.

The total catch amounted to 15,212,493 pounds, valued at $875,058. This is a decrease of 28 per cent in the catch and 17 per cent in the value of the catch, compared with the catch and its value for 1927. Of the total value of catch, that for shrimp accounted for 30 per cent; squeteagues or "sea trout," 17 per cent; oysters, 15 per cent; and red drum or redfish, 13 per cent. Of the total production, that of shrimp accounted for 51 per cent; oysters, 12 per cent; squeteagues or "sea trout," 8 per cent; and red snapper and red drum or redfish, each, 7 per cent.

OPERATING UNITS BY GEAR

The catch of fishery products on the coast of Texas during 1928 was taken by 2,347 fishermen, who used 45 motor vessels, 4 sailing vessels, 1,401 motor and other boats, and 10 major types of gear. The motor and sailing vessels had a combined capacity of 600 net tons. The fisheries accounting for the greatest number of persons were the hand-line fishery, employing 554 fishermen and the otter-trawl fishery employing 547 fishermen.

CATCH BY GEAR

Four types of gear accounted for 85 per cent of the fish taken
the marine fisheries of Texas during 1928. Listed in order of th
importance they were otter trawls, which accounted for 51 per ce
of the catch; haul seines, 14 per cent; lines, 13 per cent; and tong
7 per cent.

The catch by otter trawls consisted principally of shrimp, that
haul seines principally black drum, squeteagues or "sea trout," a
red drum or redfish; that by lines principally red snapper; and th
by tongs exclusively oysters.

OPERATING UNITS BY COUNTIES

Neuces County was foremost in the number of persons fishin
accounting for 28 per cent of the total number. Galveston follow
with 22 per cent. Other counties employing a considerable numb
of fishermen listed in order of their importance in this respect we
Calhoun, Cameron, and Matagorda. Galveston County account
for 39 per cent of the total number of fishing vessels and Calho
County 25 per cent. Neuces led in the number of small motor a
other types of fishing boats, accounting for 25 per cent of the tot
and was followed by Galveston County with 19 per cent of the tot

CATCH BY COUNTIES

Fishing was prosecuted in the marine waters of 13 counties
Texas in 1928. Ranked according to value, the fisheries of Galvest
County were most important, accounting for 31 per cent of the tot
catch and 33 per cent of the total value of the catch. Neuces Coun
was next in the value of the catch, accounting for 19 per cent of t
quantity and 17 per cent of the total value. Other importa
counties listed in order with respect to the value of the catch we
Calhoun, Cameron, San Patricio, and Aransas.

Fisheries of Texas, 1928

OPERATING UNITS: BY GEAR

Items	Haul seines		Gill nets, set	Trammel nets	Cast ne
	Common	Long			
Fishermen:	*Number*	*Number*	*Number*	*Number*	*Numb*
On vessels	4			2	
On boats and shore—					
Regular	149	342	156	169	
Casual	75		4	8	
Total	228	342	160	179	
Vessels:					
Motor—					
5 to 10 tons	1				
Total	1				
Net tonnage	5				
Sail—					
5 to 10 tons				1	
Total				1	
Net tonnage				6	
Total vessels	1			1	
Total net tonnage	5			6	
Boats:					
Motor	27	8	56	87	
Other	38	180	99	102	
Apparatus:					
Number	94	92	541	108	
Length, yards	18, 686	29, 332			
Square yards			98, 496	42, 078	

Fisheries of Texas, 1928—Continued

OPERATING UNITS: BY GEAR—Continued

Items	Dip nets		Lines		
	Common	Drop	Hand	Trot, with hooks	Trot, with baits or snoods
	Number	*Number*	*Number*	*Number*	*Number*
Fishermen:					
On vessels			86		
On boats and shore—					
Regular	30	10	191	76	16
Casual			277	8	4
Total	30	10	554	84	20
Vessels:					
Motor—					
5 to 10 tons			1		
11 to 20 tons			6		
41 to 50 tons			2		
Total			9		
Net tonnage			185		
Sail—					
31 to 40 tons			1		
71 to 80 tons			1		
Total			2		
Net tonnage			118		
Total vessels			11		
Total net tonnage			303		
Boats:					
Motor			139	25	2
Other	15	10	194	74	20
Apparatus:					
Number	30	200	799	276	36
Hooks, snoods, or baits			898	43,400	9,280

Items	Otter trawls, shrimp	Spears	Oyster dredges	Tongs	By hand	Total, exclusive of duplication
	Number	*Number*	*Number*	*Number*	*Number*	*Number*
Fishermen:						
On vessels	84		21	18		175
On boats and shore—						
Regular	463	103	130	284	10	1,619
Casual		62		107	25	553
Total	547	165	151	409	35	2,347
Vessels:						
Motor—						
5 to 10 tons	28		5	3		31
11 to 20 tons	6		1	3		12
41 to 50 tons						2
Total	34		6	6		45
Net tonnage	275		58	54		470
Sail—						
5 to 10 tons				1		2
31 to 40 tons						1
71 to 80 tons						1
Total				1		4
Net tonnage				6		130
Total vessels	34		6	7		49
Total net tonnage	275		58	60		600
Boats:						
Motor	228	4	40	89	4	569
Other		1		204	25	832
Apparatus:						
Number	262	165	52	407		
Yards at mouth	3,909		52			

Fisheries of Texas, 1928—Continued

CATCH: BY GEAR

Species	Haul seines				Gill nets, set		Trammel net	
	Common		Long					
	Pounds	*Value*	*Pounds*	*Value*	*Pounds*	*Value*	*Pounds*	*Valu*
Bluefish			200	$30				
Buffalofish	34, 887	$2, 222			50, 221	$2, 581	3, 382	$1
Butterfish							1, 000	3
Catfish	35, 400	1, 883	24, 880	972	19, 060	782	50, 462	2, 0
Crevalle	50	2	696	28	500	20		
Croaker	5, 260	251	42, 270	1, 691	9, 753	415	24, 147	1, 2
Drum, black	45, 566	1, 921	740, 912	29, 637	145, 928	5, 836	51, 915	2, 5
Drum, red, or redfish	101, 730	10, 231	268, 944	26, 894	171, 364	17, 925	305, 169	38, 9
Flounders	60	7	6, 330	757	966	111	4, 033	7
King whiting or "kingfish"	9, 150	659	2, 137	85	5, 209	252	1, 900	1
Mullet			3, 000	60	150	7	11, 250	3
Pompano	3, 150	767	2, 924	488	2, 671	673	1, 790	4
Sea bass			2, 500	250				
Sheepshead, fresh-water	6, 000	350			300	36		
Sheepshead, salt-water	7, 208	508	19, 767	1, 217	2, 783	167	15, 266	1, 4
Snook or sergeantfish	51, 370	4, 329	135, 513	13, 551	26, 017	2, 736	5, 825	5
Spadefish	2, 175	143	2, 000	80				
Spanish mackerel	6, 000	1, 200	518	90	1, 678	184	2, 200	4
Squeteague or "sea trout"	153, 691	21, 069	332, 087	37, 671	143, 869	17, 760	321, 251	49, 0
Tuna or horse mackerel			100	4	632	25	316	
Shrimp	50, 000	2, 000						
Total	511, 697	47, 542	1, 584, 778	113, 505	581, 101	49, 510	799, 906	98, 1

Species	Lines					
	Hand		Trot with hooks		Trot with bait or snoods	
	Pounds	*Value*	*Pounds*	*Value*	*Pounds*	*Valu*
Bluefish	500	$40				
Catfish	41, 977	1, 690	139, 50C	$7, 515		
Croaker	3, 450	138				
Drum, black	10, 949	457	1, 200	48		
Drum, red, or redfish	113, 900	12, 166	64, 903	6, 566		
Flounders	5, 653	673				
Groupers	21, 617	698				
Jewfish	75, 746	4, 477				
Kingfish or "king mackerel"	11, 300	484				
King whiting or "kingfish"	1, 500	90				
Pompano	360	72				
Sea bass	1, 450	91				
Sheepshead, fresh-water			500	25		
Sheepshead, salt-water	7, 779	379				
Snapper, red	1, 055, 162	88, 792				
Snook or sergeantfish	10, 750	995	800	80		
Spadefish	650	26				
Spanish mackerel	77, 868	8, 155				
Squeteague or "sea trout"	197, 701	25, 394	6, 300	756		
Crabs, hard					82, 400	$5, 9
Total	1, 638, 312	144, 817	213, 203	14, 990	82, 400	5, 9

Species	Dip nets				Cast nets		Otter trawls, shrimp	
	Common		Drop					
	Pounds	*Value*	*Pounds*	*Value*	*Pounds*	*Value*	*Pounds*	*Valu*
King whiting or "kingfish"							4, 000	$2
Squeteague or sea trout							5, 000	2
Crabs, hard	10, 900	$545	203, 200	$5, 340			4, 000	2
Shrimp					10, 000	$1, 500	7, 714, 272	257, 6
Turtles							900	
Total	10, 900	545	203, 200	5, 340	10, 000	1, 500	7, 728, 172	258, 3

Fisheries of Texas, 1928—Continued

CATCH: BY GEAR—Continued

Species	Spears		Dredges		Tongs		By hand	
	Pounds	*Value*	*Pounds*	*Value*	*Pounds*	*Value*	*Pounds*	*Value*
Drum, red, or redfish	3, 872	$391						
Flounders	35, 360	4, 333						
Sheepshead, salt-water	1, 961	146						
Oysters:								
Market, public			668, 710	$38, 870	1, 042, 216	$80, 612	49, 455	$3, 773
Market, private					47, 250	6, 703		
Total	41, 193	4, 870	668, 710	38, 870	1, 089, 466	87, 315	49, 455	3, 773

OPERATING UNITS: BY COUNTIES

Items	Aransas	Brazoria	Calhoun	Cameron	Chambers	Galveston	Harris
Fishermen:	*Number*	*Number*	*Number*	*Number*	*Number*	*Number*	*Number*
On vessels	2		31			99	2
On boats and shore—							
Regular	122	10	215	218	33	309	38
Casual	50		52	25		101	8
Total	174	10	298	243	33	509	48
Vessels:							
Motor—							
5 to 10 tons	1		8			9	
11 to 20 tons			3			6	1
41 to 50 tons						2	
Total	1		11			17	1
Net tonnage	7		92			240	11
Sail—							
5 to 10 tons			1				
31 to 40 tons						1	
71 to 80 tons						1	
Total			1			2	
Net tonnage			6			118	
Total vessels	1		12			19	1
Total net tonnage	7		98			358	11
Boats:							
Motor	32	4	112	1	23	125	21
Other	83	10	105	112	22	136	34
Apparatus:							
Haul seines—							
Common	2		11	1	5	46	2
Yards	700		3, 050	620	2, 000	7, 066	700
Long	3			44			
Yards	600			12, 800			
Gill nets, set	221		14		64	43	
Square yards	22, 100		1, 192		14, 223	7, 997	
Trammel nets	11	4	41			26	11
Square yards	4, 400	1, 200	16, 694			8, 500	3, 222
Lines—							
Hand	41		55			133	3
Hooks	41		55			211	6
Trot with hooks	46		18		60		36
Hooks	6, 000		2, 800		8, 000		14, 400
Trot with baits or snoods						30	6
Baits or snoods						5, 680	3, 600
Dip nets—							
Common	30						
Drop						165	
Otter trawls, shrimp	15		71			56	
Yards at mouth	225		1, 065			764	
Spears	16		43			24	
Dredges, oyster	3		7		1	25	
Yards at mouth	3		7		1	25	
Tongs	60		46			69	14

Fisheries of Texas, 1928—Continued

OPERATING UNITS: BY COUNTIES—Continued

Items	Jefferson	Mata-gorda	Nueces	Orange	Refugio	San Patricio
Fishermen:	*Number*	*Number*	*Number*	*Number*	*Number*	*Number*
On vessels	3	15	17	----	----	
On boats and shore—						
Regular	4	155	419	6	2	8
Casual	8	35	218	----	16	4
Total	15	205	654	6	18	13
Vessels:						
Motor—						
5 to 10 tons	1	4	6	----	----	
11 to 20 tons	----	1	1	----	----	----
Total	1	5	7	----	----	
Net tonnage	8	46	53	----	----	1
Sail—						
5 to 10 tons	----	1	----	----	----	----
Total	----	1	----	----	----	----
Net tonnage	----	6	----	----	----	----
Total vessels	1	6	7	----	----	
Total net tonnage	8	52	53	----	----	1
Boats:						
Motor	----	64	141	----	1	4
Other	5	69	203	6	14	3
Apparatus:						
Haul seines—						
Common	1	3	23	----	----	----
Yards	200	900	3, 450	----	----	----
Long	----	8	37	----	----	----
Yards	----	3, 532	12, 400	----	----	----
Gill nets, set	----	50	75	----	5	6
Square yards	----	10, 397	24, 835	----	665	17, 08
Trammel nets	----	6	9	----	----	----
Square yards	----	4, 465	3, 597	----	----	----
Lines—						
Hand	7	20	430	----	10	10
Hooks	10	20	445	----	10	10
Trot with hooks	----	66	8	24	12	
Hooks	----	2, 200	1, 200	7, 000	1, 000	80
Dip nets—						
Drop	35	----	----	----	----	----
Cast nets	9	----	----	----	----	----
Otter trawls, shrimp	----	19	62	----	----	3
Yards at mouth	----	285	962	----	----	60
Spears	----	43	23	----	----	1
Dredges, oyster	----	14	2	----	----	----
Yards at mouth	----	14	2	----	----	----
Tongs	----	66	142	----	10	----

CATCH: BY COUNTIES

Species	Aransas		Brazoria		Calhoun		Cameron	
	Pounds	*Value*	*Pounds*	*Value*	*Pounds*	*Value*	*Pounds*	*Value*
Angelfish	400	$16	----	----	----	----	2, 000	$8
Bluefish	----	----	----	----	----	----	100	1
Buffalofish	----	----	----	----	12, 490	$499	----	----
Butterfish	----	----	----	----	1, 000	30	----	----
Catfish	55, 284	2, 211	1, 000	$60	81, 303	3, 039	9, 000	36
Crevalle	----	----	----	----	----	----	200	
Croaker	12, 180	487	900	45	5, 152	205	32, 452	1, 29
Drum, black	33, 096	1, 339	500	25	36, 889	1, 493	425, 141	17, 00
Drum, red, or redfish	144, 702	14, 471	8, 500	1, 020	177, 072	17, 922	145, 142	14, 01
Flounders	8, 216	903	----	----	9, 092	998	400	4
King whiting or "kingfish"	1, 434	57	200	10	1, 700	68	----	----
Mullet	----	----	----	----	----	----	3, 000	6
Pompano	624	160	----	----	----	----	1, 854	33
Sea bass	----	----	----	----	----	----	2, 500	25
Sheepshead, salt-water	1, 416	85	200	20	7, 730	613	15, 328	92
Snook or sergeantfish	20, 302	2, 030	----	----	2, 525	255	160, 828	15, 38
Spanish mackerel	1, 678	184	----	----	368	55	400	7
Squeteagues or "sea trout"	88, 522	10, 564	5, 500	770	190, 422	22, 180	257, 761	27, 45
Tuna or horse mackerel	1, 048	41	----	----	----	----	----	----
Crabs, hard	10, 900	545	----	----	----	----	----	----
Shrimp	508, 556	20, 342	----	----	1, 510, 290	52, 861	----	----
Oysters:								
Market, public	92, 757	8, 613	41, 055	2, 933	164, 556	10, 291	8, 400	84
Market, private	1, 050	103	----	----	----	----	----	----
Total	982, 165	62, 151	57, 855	4, 883	2, 200, 589	110, 509	1, 064, 506	78, 13

Fisheries of Texas, 1928—Continued

CATCH: BY COUNTIES—Continued

Species	Chambers		Galveston		Harris		Jefferson	
	Pounds	*Value*	*Pounds*	*Value*	*Pounds*	*Value*	*Pounds*	*Value*
Angelfish			1,875	$131				
Buffalofish	43,000	$2,364			18,500	$1,480		
Catfish	26,500	2,340	23,850	1,375	61,000	2,410	1,900	$152
Croaker	100	5	15,350	938	500	46	200	12
Drum, black	300	16	14,100	849	5,150	512	200	12
Drum, red, or redfish	1,800	244	129,850	19,490	36,000	6,480	3,000	540
Flounders			6,350	1,270	100	18		
Groupers			19,451	584			1,000	70
Jewfish			50,430	3,283			4,000	280
King whiting or "kingfish"	200	20	10,150	755	400	40	100	15
Mullet			11,250	338				
Pompano			1,870	494	50	9		
Sea bass							1,000	70
Sheepshead, salt-water	150	15	11,625	1,165	700	72	100	15
Sheepshead, fresh-water	5,500	275			1,000	100		
Snapper, red			948,742	75,900			45,000	6,750
Snook or sergeantfish			120	24				
Spanish mackerel			18,200	3,640				
Squeteagues or "sea trout"	4,200	830	232,400	41,545	53,500	9,640	4,800	960
Crabs, hard			248,800	8,400	36,000	2,700	4,800	420
Shrimp			2,409,771	85,243			10,000	1,500
Oysters:								
Market, public	16,800	800	579,796	36,809	67,620	6,885		
Market, private			46,200	6,600				
Turtles			900	27				
Total	98,550	6,909	4,781,080	288,860	280,520	30,422	76,100	10,796

Species	Matagorda		Nueces		Orange	
	Pounds	*Value*	*Pounds*	*Value*	*Pounds*	*Value*
Angelfish			550	$22		
Bluefish			600	55		
Buffalofish	12,000	$510				
Catfish	24,862	1,381	9,880	296	10,000	$1,000
Crevalle			1,046	42		
Croaker	5,700	228	10,596	424		
Drum, black	11,237	449	413,363	16,534		
Drum, red, or redfish	42,127	4,212	243,739	24,074		
Flounders	5,058	634	19,970	2,337		
Groupers			1,166	44		
Jewfish			17,150	664		
Kingfish or "king mackerel"			4,300	204		
King whiting or "kingfish"	537	21	4,800	192		
Pompano	590	78	3,572	815		
Sea bass			450	21		
Sheepshead, salt-water	2,077	166	12,754	625		
Sheepshead, fresh-water	300	36				
Snapper, red			61,420	6,142		
Snook or sergeantfish	300	30	32,300	3,030		
Spanish mackerel	118	18	47,500	4,100		
Squeteagues or "sea trout"	58,739	7,242	205,655	23,798		
Shrimp	227,135	7,949	1,655,301	49,658		
Oysters, market, public	608,468	39,183	173,929	16,151		
Total	999,248	62,137	2,920,041	149,228	10,000	1,000

Species	Refugio		San Patricio	
	Pounds	*Value*	*Pounds*	*Value*
Buffalofish	2,500	$125		
Catfish	4,000	160	2,700	$81
Croaker	100	4	1,650	91
Drum, black	700	28	55,794	2,232
Drum, red, or redfish	8,000	800	89,950	9,813
Flounders			3,216	386
Jewfish			4,166	250
Kingfish or "king mackerel"			7,000	280
King whiting or "kingfish"			4,375	219
Mullet			150	7
Pompano			2.335	584
Sheepshead, salt-water	100	6	2,584	155
Snook or sergeantfish	200	20	13,700	1,504
Spanish mackerel			20,000	2,000
Squeteagues or "sea trout"	3,000	360	55,400	6,573
Shrimp			1,453,219	43,597
Oysters, market, public	7,000	750		
Total	25,600	2,253	1,716,239	67,772

INDUSTRIES RELATED TO THE FISHERIES

Wholesale trade.—There were 61 establishments along the coast of Texas engaged chiefly in handling fresh and frozen products. This is 24 per cent of the total number of such establishments in the Gulf section. These establishments employed 401 persons, who received $217,303 in salaries and wages. Nueces and Calhoun Counties were each represented by 13 wholesale establishments. Galveston County ranked next with 11 establishments.

Prepared and by-products trade.—There were 9 establishments on the coast of Texas in 1928 engaged primarily in the manufacture of prepared fishery products or by-products. This is 9 per cent of the total number in the Gulf section. They employed 133 persons who received $93,616 in salaries and wages. The products manufactured, consisting principally of canned shrimp, were valued at $330,008. Detailed statistics of most of the items manufactured may be obtained from Fishery Industries of the United States, 1928. Bureau of Fisheries Document No. 1067.

Industries related to the fisheries of Texas, 1928

WHOLESALE FISHERY TRADE

Items	Aransas	Calhoun	Cameron	Galveston	Harris, Chambers, and Orange	Matagorda	Nueces	San Patricio	Total
Establishments	4	13	6	11	4	6	13	4	61
Persons engaged:									
Proprietors	4	19	7	20	4	6	17	6	83
Salaried employees	4	7	15	16		5	9	2	58
Wage earners	15	47	25	57	6	53	45	12	260
Paid to salaried employees	$5, 440	$10, 991	$18, 200	$28, 880		$5, 810	$14, 340	$5, 436	$89, 097
Paid to wage earners	7, 899	21, 356	13, 866	33, 801	$4, 040	23, 256	18, 332	5, 656	128, 206
Total salaries and wages	13, 339	32, 347	32, 066	62, 681	4, 040	29, 066	32, 672	11, 092	217, 303

PREPARED FISHERY PRODUCTS AND BY-PRODUCTS

Items	Number	Products[1]	Quantity	Value
Establishments	9	Canned shrimp:		
Persons engaged:		Dry pack, standard cases[2]	6, 685	$39, 315
Proprietors	16	Wet pack, standard cases	32, 686	227, 824
Salaried employees	11	Poultry feed from crushed oyster shells, tons	2, 889	24, 747
Wage earners	106	Other products[3]		38, 122
Paid to salaried employees	$34, 492	Total		330, 008
Paid to wage earners	59, 124			
Total salaries and wages	93, 616			

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[1] Includes canned shrimp prepared by one firm, whose activities were principally in the wholesale fishery trade.

[2] A standard case contains forty-eight 5-ounce cans in the dry pack or forty-eight 5¾-ounce cans in the wet pack of shrimp.

[3] Includes canned oysters and lime from crushed oyster shells.

HISTORICAL REVIEW

Twelve general surveys have been made for statistics of the Gulf States during the 49 years from 1880 to 1928. The catch for 1928, which amounted to 191,007,000 pounds, was greater than that in any year during the period 1880 to 1928, except that in 1927 which amounted to 195,705,000 pounds. Beginning with a catch of 23,561,000 pounds in 1880, there has been an almost continuous increase throughout the period. Comparative statistics for the catch of each of the more important species are shown in the following tables.

Fisheries of the Gulf States, 1880 to 1928

[Expressed in thousands of pounds and thousands of dollars; that is, 000 omitted]

Year	Florida (west coast)		Alabama		Mississippi	
	Quantity	*Value*	*Quantity*	*Value*	*Quantity*	*Value*
1880	8, 376	565	3, 542	119	788	23
1887	(1)	(1)	(1)	(1)	6, 548	190
1888	19, 597	802	1, 634	76	7, 883	232
1889	23, 547	949	4, 560	147	8, 933	251
1890	27, 419	1, 064	4, 777	155	8, 131	246
1897	28, 255	945	4, 699	134	7, 830	192
1902	48, 120	1, 462	9, 351	267	23, 427	553
1908	37, 566	2, 120	10, 665	387	17, 302	459
1918	54, 754	3, 420	5, 609	231	20, 592	763
1923	73, 266	4, 026	7, 631	342	25, 032	986
1927	73, 835	4, 351	10, 076	437	34, 503	1, 259
1928	61, 121	3, 866	14, 466	587	30, 701	1, 060

Year	Louisiana		Texas		Total	
	Quantity	*Value*	*Quantity*	*Value*	*Quantity*	*Value*
1880	6, 996	393	3, 859	128	23, 561	1, 228
1887	18, 455	580	6, 282	256	(1)	(1)
1888	19, 121	613	6, 609	271	54, 844	1, 994
1889	20, 947	621	7, 358	297	65, 395	2, 265
1890	20, 789	660	7, 959	314	69, 075	2, 439
1897	17, 402	714	7, 175	287	65, 361	2, 272
1902	24, 754	858	8, 044	354	113, 696	3, 494
1908	42, 302	1, 448	10, 439	446	118, 274	4, 860
1918	24, 954	1, 419	25, 015	677	130, 924	6, 510
1923	34, 835	1, 961	19, 560	782	160, 324	8, 097
1927	56, 208	2, 863	21, 083	1, 054	195, 705	9, 964
1928	69, 507	3, 478	15, 212	875	191, 007	9, 866

CATCH OF CERTAIN SPECIES: BY STATES

[Expressed in thousands of pounds; that is, 000 omitted]

Year	Bluefish						Cero and kingfish or "king mackerel"			
	Florida (west coast)	Alabama	Mississippi	Louisiana	Texas	Total	Florida (west coast)	Mississippi	Texas	Total
1880	44	--------	--------	--------	--------	--------	--------	--------	--------	--------
1887	(1)	(1)	73	13	7	--------	(1)	--------	--------	--------
1888	(1)	--------	78	15	6	--------	(1)	--------	--------	--------
1889	364	58	90	13	24	549	456	--------	--------	456
1890	420	56	96	13	26	611	292	--------	--------	292
1897	265	--------	--------	--------	--------	265	440	--------	--------	440
1902	353	--------	--------	--------	--------	353	152	--------	--------	152
1908	580	--------	--------	--------	--------	580	37	--------	--------	37
1918	271	--------	--------	--------	--------	271	466	--------	--------	466
1923	418	--------	--------	--------	--------	418	564	--------	--------	564
1927	620	46	30	6	1	703	1, 253	--------	10	1, 263
1928	390	31	27	--------	1	449	1, 315	1	11	1, 327

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[1] Figures not available.

Fisheries of the Gulf States, 1880 to 1928—Continued

CATCH OF CERTAIN SPECIES: BY STATES—Continued

[Expressed in thousands of pounds; that is, 000 omitted]

Year	Crevalle [2]					Croaker					
	Florida (west coast)	Alabama	Mississippi	Texas	Total	Florida (west coast)	Alabama	Mississippi	Louisiana	Texas	Total
1887	(1)	(1)	--------	63	--------	(1)	(1)	[3] 75	[3] 54	107	--------
1888	(1)	--------	--------	60	--------	(1)	--------	[3] 79	[3] 55	110	--------
1889	185	44	--------	52	281	36	103	54	150	148	491
1890	333	41	--------	56	430	43	98	57	158	176	532
1897	46	--------	--------	--------	46	--------	(1)	(1)	(1)	(1)	--------
1902	85	--------	--------	--------	85	--------	58	273	155	58	544
1908	227	--------	--------	--------	227	--------	72	176	569	159	776
1918	561	--------	--------	--------	561	--------	94	41	383	198	716
1923	508	--------	--------	--------	508	--------	37	45	219	68	369
1927	907	4	--------	--------	911	45	27	51	186	104	368
1928	496	28	6	1	531	42	46	56	169	85	398

Year	Drum, black						Drum, red, or redfish					
	Florida (west coast)	Alabama	Mississippi	Louisiana	Texas	Total	Florida (west coast)	Alabama	Mississippi	Louisiana	Texas	Total
1887	(1)	(1)	2	--------	--------	--------	(1)	(1)	141	289	1, 005	--------
1888	(1)	--------	2	--------	--------	--------	(1)	--------	165	288	944	--------
1889	102	7	2	11	4	126	393	64	185	314	1, 063	2, 019
1890	122	7	3	18	4	154	458	54	201	339	1, 108	2, 160
1897	38	6	5	19	50	118	236	213	199	465	1, 144	2, 257
1902	194	5	12	51	157	419	1, 104	70	93	442	898	2, 607
1908	--------	--------	--------	--------	--------	--------	[4] 608	[4] 151	[4] 244	[4] 716	[4] 1, 309	3, 028
1918	57	12	14	54	1, 873	2, 010	958	23	116	566	1, 337	3, 000
1923	95	9	39	60	1, 028	1, 231	1, 398	15	177	665	878	3, 133
1927	70	10	95	182	1, 432	1, 789	776	55	237	556	1, 248	2, 872
1928	39	8	63	163	996	1, 269	889	49	208	434	1, 030	2, 610

Year	Grouper						Menhaden		
	Florida (west coast)	Alabama	Mississippi	Louisiana	Texas	Total	Florida (west coast)	Texas	Total
1880	1, 764	--------	--------	--------	--------	--------	--------	--------	--------
1887	(1)	(1)	--------	--------	4	--------	(1)	--------	--------
1888	(1)	--------	--------	--------	7	--------	(1)	--------	--------
1889	418	10	--------	18	--------	446	--------	--------	--------
1890	399	11	--------	18	--------	428	--------	--------	--------
1897	781	69	--------	--------	3	853	--------	--------	--------
1902	437	635	--------	--------	40	1, 112	2	--------	
1908	1, 231	394	--------	--------	--------	1, 625	--------	--------	--------
1918	5, 626	244	25	20	21	5, 936	295	14, 118	14, 41
1923	4, 266	305	26	10	33	4, 640	10, 956	8, 517	19, 47
1927	4, 488	144	38	16	37	4, 723	13, 466	--------	13, 46
1928	3, 971	199	49	--------	22	4, 241	5, 857	--------	5, 85

[1] Figures not available.

[2] Includes blue runner or jurel.

[3] Includes spots.

[4] Probably includes some black drum.

NOTE.—Prior to 1889 some of the above species were included under the heading "Miscellaneous fish" or "All other species"; therefore, the total for certain species is not shown for certain years of this period

Fisheries of the Gulf States, 1880 to 1928—Continued

CATCH OF CERTAIN SPECIES: BY STATES—Continued

[Expressed in thousands of pounds; that is, 000 omitted]

Year	Mullet						Pompano					
	Florida (west coast)	Alabama	Mississippi	Louisiana	Texas	Total	Florida (west coast)	Alabama	Mississippi	Louisiana	Texas	Total
1880	2.028	125	2	55	8	2,218	14	------	--------	------	------	-----
1887	(1)	(1)	233	253	31	--------	(1)	(1)	11	30	2	-----
1888	(1)	262	233	253	32	--------	(1)	------	12	31	2	-----
1889	13,348	613	722	283	82	15,048	420	18	14	29	2	483
1890	15,556	588	305	288	83	16.820	342	17	15	32	2	408
1897	15,575	600	241	166	--------	16,582	406	------	--------	------	------	406
1902	26,310	1,546	603	123	--------	28,582	487	------	--------	------	------	487
1908	16,145	1,656	1,035	133	--------	18,969	232	------	--------	------	------	232
1918	26,380	1,703	1,565	325	--------	29,973	242	------	--------	------	------	242
1923	28,454	648	1,739	181	--------	31,022	282	------	--------	------	------	282
1927	24,802	1,973	2,363	132	5	29,275	428	5	6	10	5	454
1928	23,489	2,118	803	24	14	26,448	419	5	4	2	11	441

Year	Sheepshead						Snapper, red					
	Florida (west coast)	Alabama	Mississippi	Louisiana	Texas	Total	Florida (west coast)	Alabama	Mississippi	Louisiana	Texas	Total
1880	--------	------	--------	--------	--------	--------	223	360	--------	900	-------	--------
1887	(1)	(1)	124	362	695	--------	(1)	(1)	-----	131	75	-
1888	(1)	------	128	366	647	--------	(1)	86	--------	150	65	--------
1889	527	33	156	364	739	1,819	3,469	51	--------	250	22	3,792
1890	544	35	173	391	779	1.922	4,173	62	--------	240	5	4,480
1897	663	87	110	238	468	1,566	5,314	335	--------	-------	465	6,114
1902	1.374	75	70	339	217	2,075	8,074	3,466	--------	-------	2,068	13,608
1908	473	24	81	249	298	1,125	7,659	2,635	--------	-------	2,252	12,546
1918	989	28	68	277	198	1,560	7,230	798	98	60	1,243	9,429
1923	1,025	21	91	193	141	1,471	9.471	970	104	175	1,009	11,729
1927	680	47	144	183	48	1,102	9,313	1,059	219	72	1,237	11.900
1928	499	38	80	108	55	780	7,891	1,301	97	48	1,055	10,392

Year	Spanish mackerel						Squeteagues or "sea trout"					
	Florida (west coast)	Alabama	Mississippi	Louisiana	Texas	Total	Florida (west coast)	Alabama	Mississippi	Louisiana	Texas	Total
1887	(1)	(1)	30	119	11	--------	(1)	(1)	258	524	941	-------
1888	(1)	------	34	126	11	--------	(1)	228	280	522	872	-------
1889	382	58	44	134	17	635	712	205	370	619	1,077	2,983
1890	448	44	46	144	25	707	654	209	372	656	1,120	3.011
1897	503	86	65	56	41	751	830	296	453	567	1,012	3,158
1902	1,513	34	7	6	64	1,624	1,913	259	473	1,078	1,119	4,842
1908	1,419	13	7	5	42	1,446	1,207	208	517	1,103	1,055	4,090
1918	3.463	4	12	2	41	3,522	1,694	139	356	1,190	1.613	4,992
1923	3,772	1	10	3	79	3,795	1,591	49	410	783	1,524	4,357
1927	4,570	22	12	23	144	4,771	2,583	118	605	822	1,700	5.828
1928	3,229	4	9	22	88	3,352	2,683	125	487	885	1,160	5,340

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[1] Figures not available.

Fisheries of the Gulf States, 1880 to 1928—Continued

CATCH OF CERTAIN SPECIES: BY STATES—Continued

[Expressed in thousands of pounds; that is, 000 omitted]

Year	Sturgeon			Crabs					
	Florida (west coast)	Alabama	Total	Florida (west coast)	Alabama	Mississippi	Louisiana	Texas	Total
1880							288	36	
1887	(1)	(1)		(1)	(1)	53	971	111	
1888	(1)			(1)	96	57	994	115	
1889						67	989	189	1, 24
1890						47	981	191	1, 21
1897	9		9	6	24	153	1, 459	138	1, 78
1902	349		349	13	75	265	1, 312	43	1, 70
1908	7		7	64	246	427	322	200	1, 25
1918	5		5	24	96	225	282	194	82
1923	7		7	7	84	443	316	109	95
1927	8	15	23	70	32	2, 434	1, 227	121	3, 88
1928	16	10	26	84	105	1, 584	2, 503	301	4, 57

Year	Shrimp					
	Florida (west coast)	Alabama	Mississippi	Louisiana	Texas	Total
1880				534	638	
1887		(1)	1, 145	6, 810	255	
1888	(1)	44	1, 093	6, 943	259	
1889		30	794	7, 238	242	8, 30
1890			614	6, 662	176	7, 45
1897		41	1, 903	4, 487	361	6. 79
1902	17		4, 424	7, 635	291	12, 35
1908	8	37	4, 121	8, 581	118	12, 86
1918	3, 250	1, 266	9, 147	18, 520	164	32, 34
1923	2, 881	3, 182	9, 879	27, 753	3, 422	47, 11
1927	2, 389	5, 162	9, 234	40. 259	11, 832	68, 87
1928	2, 877	5, 972	11, 768	53, 779	7, 774	82, 17

Year	Sea crawfish or spiny lobster	Oysters [5]						Sponge
	Florida (west coast)	Florida (west coast)	Alabama	Mississippi	Louisiana	Texas	Total	Florid (west coast)
1880		410	732	175	2, 065	669		20
1887	(1)	(1)	(1)	4, 068	4, 748	1, 793		(1)
1888	(1)	(1)	533	5, 370	5, 040	2, 389		25
1889		2, 064	3, 069	5, 919	5, 849	2, 524	19, 425	31
1890		2, 598	3, 367	5, 645	5, 891	3, 086	20, 587	36
1897	158	1, 258	1, 785	4. 408	6, 714	2, 491	16, 656	33
1902	56	4, 057	2, 432	16, 836	8, 389	2, 402	34, 116	34
1908	53	3, 764	4, 132	7, 473	25, 554	3, 480	44, 403	54
1911		1, 312	3, 093	4, 604	31, 530	3. 043	43, 582	(1)
1918	322	2, 616	1, 032	8, 907	7, 855	3. 344	23, 754	45
1923	321	1, 642	2, 262	11, 875	7, 155	2, 520	25, 454	57
1927	131	1, 736	1, 165	18, 815	11, 534	2, 763	36, 013	60
1928	197	2, 859	4, 218	15, 210	10, 849	1, 807	34, 943	55

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[1] Figures not available.

[5] Shown on the basis of 7 pounds of meat to the bushel.

FISHERIES OF THE PACIFIC COAST STATES

During 1928 the catch of fishery products in the Pacific Coast States exceeded that in any year for which there are records. The value of the catch, however, was somewhat less than during several of the past few years. These fisheries gave employment to 19,733 fishermen or 4 per cent less than in 1927. Of the total number of fishermen employed during 1928, 5,242 were engaged on vessels and 14,491 were employed in the shore and boat fisheries. Their catch amounted to 693,484,447 pounds valued at $20,512,772. This is an increase of 6 per cent in the quantity and a decrease of 8 per cent in the value as compared with the catch and its value for 1927. Of the total catch in 1928, 674,898,970 pounds, valued at $18,652,473, were fish; 13,704,838 pounds, valued at $1,564,299, were shellfish and miscellaneous products; and 4,880,639 pounds, valued at $296,000, were whale products.

Based on the value to the fishermen, salmon with a production of 80,891,735 pounds, valued at $7,578,148, was by far the most important fishery product taken on the Pacific coast. Pilchard or sardine ranked second with a production of 420,269,855 pounds, valued at $2,323,925. Other important species were yellowfin tuna, with a production of 32,251,246 pounds, valued at $1,773,788, and halibut with a production of 12,729,214 pounds, valued at $1,476,190. Other products were valued individually at less than $1,000,000.

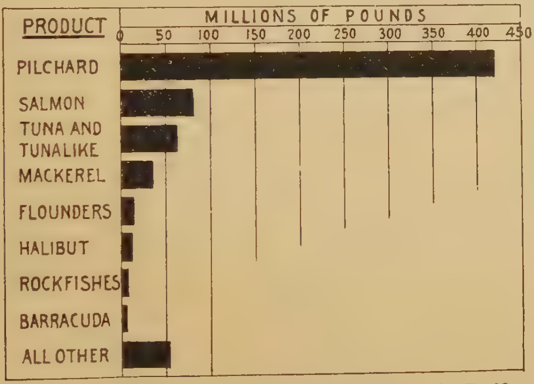

FIGURE 24.—Yield of principal fishery products in the Pacific Coast States, 1928

The industries related to the fisheries of the Pacific Coast States gave employment to 11,034 persons of whom 356 were engaged in transporting fishery products, 1,216 were in the wholesale trade and received $2,117,050 in salaries and wages, and 9,462 were in the prepared-products and by-products trade and received $6,006,618 in salaries and wages.

There were 109 establishments in the wholesale fish trade handling primary products and 166 establishments in the prepared-products and by-products trade. The latter manufactured products, valued at $37,412,423, consisting principally of salmon, sardines, and tuna and tunalike fishes.

Fisheries of the Pacific Coast States, 1928

SUMMARY OF CATCH

Products	Washington		Oregon		California		Total	
	Pounds	*Value*	*Pounds*	*Value*	*Pounds*	*Value*	*Pounds*	*Value*
Fish	78, 791, 362	$6, 717, 793	26, 711, 897	$2, 608, 804	569, 395, 711	$9, 325, 876	674, 898, 970	$18, 652, 47
Shellfish, etc	4, 083, 136	783, 006	761, 914	77, 524	8, 859, 788	703, 769	13, 704, 838	1, 564, 29
Whale products	----------	----------	----------	----------	4, 880, 639	296, 000	4, 880, 639	296, 00
Total	82, 874, 498	7, 500, 799	27, 473, 811	2, 686, 328	583, 136, 138	10, 325, 645	693, 484, 447	20, 512, 77

OPERATING UNITS: BY STATES

Items	Washington				Oregon		
	Puget Sound district	Coastal district	Columbia River district	Total	Columbia River district	Coastal district	Total
Fishermen:	*Number*	*Number*	*Number*	*Number*	*Number*	*Number*	*Number*
On vessels	2, 170	8	2	2, 180	70	25	95
On boats and shore	2, 186	2, 888	1, 543	6, 617	2, 379	1, 618	3, 997
Total	4, 356	2, 896	1, 545	8, 797	2, 449	1, 643	4, 092
Vessels:							
Steam	2	----------	----------	2	----------	----------	----------
Net tonnage	16	----------	----------	16	----------	----------	----------
Motor	341	4	1	346	23	9	32
Net tonnage	6, 418	24	5	6, 447	216	81	297
Sail	4	----------	----------	4	----------	----------	----------
Net tonnage	1, 384	----------	----------	1, 384	----------	----------	----------
Total vessels	347	4	1	352	23	9	32
Total net tonnage	7, 818	24	5	7, 847	216	81	297
Boats:							
Motor	1, 154	295	917	2, 366	1, 222	921	2, 143
Other	319	228	270	817	65	339	404
Apparatus:							
Purse seines—							
Salmon	168	----------	----------	168	----------	----------	----------
Yards	100, 300	----------	----------	100, 300	----------	----------	----------
Haul seines	103	----------	50	153	54	2	56
Yards	9, 995	----------	27, 493	37, 488	31, 140	400	31, 540
Drift gill nets, salmon	340	116	465	921	927	533	1, 460
Square yards	629, 074	264, 200	1, 114, 880	2, 008, 154	2, 976, 330	540, 813	3, 517, 143
Set gill nets, salmon	16	185	346	547	205	802	1, 007
Square yards	5, 910	86, 148	84, 320	176, 378	62, 630	156, 956	219, 586
Troll lines	3, 720	35	748	4, 503	1, 134	884	2, 018
Hooks	8, 814	70	1, 576	10, 460	3, 244	2, 304	5, 548
Trawl, set and hand lines	27, 742	52	47	27, 841	246	210	456
Hooks	565, 136	6, 300	4, 225	575, 661	32, 000	29, 400	61, 400
Pound nets	180	184	304	668	70	----------	70
Brush weirs	12	----------	----------	12	----------	----------	----------
Fish wheels	----------	----------	30	30	----------	----------	----------
Dip nets	----------	----------	143	143	188	----------	188
Drag bag nets	45	----------	----------	45	----------	----------	----------
Yards	3, 878	----------	----------	3, 878	----------	----------	----------
Reef nets	8	----------	----------	8	----------	----------	----------
Beam trawls	36	----------	----------	36	----------	----------	----------
Yards at mouth	221	----------	----------	221	----------	----------	----------
Traps—							
Crab	2, 340	3, 850	----------	6, 190	----------	3, 660	3, 660
Crawfish	----------	----------	----------	----------	920	----------	920
Tongs and dredges	79	35	----------	114	----------	2	2
Shovels	262	2, 478	----------	2, 740	----------	230	230

Fisheries of the Pacific Coast States, 1928—Continued

OPERATING UNITS: BY STATES—Continued

Items	California						Grand total
	Northern district	San Francisco district	Monterey district	Southern district		Total	
				San Pedro division	San Diego division		
	Number	*Number*	*Number*	*Number*	*Number*	*Number*	*Number*
Fishermen:							
On vessels	46	285	90	1, 877	669	2, 967	5, 242
On boats and shore	502	1, 025	1, 030	1, 025	295	3, 877	14, 491
Total	548	1, 310	1, 120	2, 902	964	6, 844	19, 733
Vessels:							
Steam	--------	4	--------	--------	--------	4	6
Net tonnage	--------	241	--------	--------	--------	241	257
Motor	15	26	10	257	119	427	805
Net tonnage	153	407	110	4, 889	2, 883	8, 442	15, 186
Sail	--------	4	--------	--------	--------	4	8
Net tonnage	--------	1, 598	--------	--------	--------	1, 598	2, 982
Total vessels	15	34	10	257	119	435	819
Total net tonnage	153	2, 246	110	4, 889	2, 883	10, 281	18, 425
Boats:							
Motor	144	643	276	499	157	1, 719	6, 228
Other	239	52	13	52	12	368	1, 589
Apparatus:							
Purse seines—							
Barracuda	--------	--------	--------	48	--------	48	48
Yards	--------	--------	--------	20, 320	--------	20, 320	20, 320
Salmon	--------	--------	--------	--------	--------	--------	168
Yards	--------	--------	--------	--------	--------	--------	100, 300
Sardine	--------	--------	3	71	--------	74	74
Yards	--------	--------	930	27, 570	--------	28, 500	28, 500
Tuna	--------	--------	--------	62	--------	62	62
Yards	--------	--------	--------	34, 133	--------	34, 133	34, 133
Haul seines	2	8	--------	--------	--------	10	219
Yards	400	960	--------	--------	--------	1, 360	70, 388
Drift gill nets, salmon	198	233	--------	--------	--------	431	2, 812
Square yards	129, 200	573, 646	--------	--------	--------	702, 846	6, 228, 143
Set gill nets, salmon	--------	--------	--------	--------	--------	--------	1, 554
Square yards	--------	--------	--------	--------	--------	--------	395, 964
Gill nets—							
Barracuda	--------	--------	--------	66	26	92	92
Square yards	--------	--------	--------	430, 244	145, 647	575, 891	575, 891
Crab	--------	--------	24	--------	--------	24	24
Square yards	--------	--------	57, 810	--------	--------	57, 810	57, 810
Sea bass	--------	17	20	48	22	107	107
Square yards	--------	25, 646	30, 861	259, 766	102, 870	419, 143	419, 143
Shad	--------	241	--------	--------	--------	241	241
Square yards	--------	576, 954	--------	--------	--------	576, 954	576, 954
Striped bass	--------	173	--------	--------	--------	173	173
Square yards	--------	364, 338	--------	--------	--------	364, 338	364, 338
Other	22	29	70	26	14	161	161
Square yards	10, 860	24, 640	47, 320	18, 798	10, 500	112, 118	112, 118
Trammel nets	--------	--------	--------	51	20	71	71
Square yards	--------	--------	--------	365, 766	248, 770	614, 536	614, 536
Troll lines	706	982	535	2, 693	1, 598	6, 514	13, 035
Hooks	3, 298	4, 902	2, 666	2, 693	1, 598	15, 157	31, 165
Trawl, set and hand lines	199	446	990	1, 351	719	3, 705	32, 002
Hooks	23, 750	36, 168	181, 720	292, 978	142, 969	677, 585	1, 314, 646
Pound nets	--------	--------	--------	--------	--------	--------	738
Brush weirs	--------	--------	--------	--------	--------	--------	12
Fish wheels	--------	--------	--------	--------	--------	--------	30
Fyke nets	--------	1, 248	--------	--------	--------	1, 248	1, 248
Dip nets	29	--------	--------	--------	--------	29	360
Bag nets, shrimp	--------	8	--------	--------	--------	8	8
Yards	--------	4, 272	--------	--------	--------	4, 272	4, 272
Drag bag nets	--------	--------	--------	--------	--------	--------	45
Yards	--------	--------	--------	--------	--------	--------	3, 878
Reef nets	--------	--------	--------	--------	--------	--------	8
Lampara nets—							
Sardine	--------	16	60	102	44	222	222
Yards	--------	3, 776	20, 354	39, 830	12, 858	76, 818	76, 818
Squid	--------	--------	40	--------	--------	40	40
Yards	--------	--------	10, 120	--------	--------	10, 120	10, 120
Paranzella nets	1	11	1	5	--------	18	18
Yards at mouth	17	183	17	84	--------	301	301
Beam trawls	--------	24	--------	--------	--------	24	60
Yards at mouth	--------	148	--------	--------	--------	148	366

Fisheries of the Pacific Coast States, 1928—Continued

OPERATING UNITS: BY STATES—Continued

Items	California						Grand total
	Northern district	San Francisco district	Monterey district	Southern district		Total	
				San Pedro division	San Diego division		
Apparatus—Continued.							
Traps—	*Number*	*Number*	*Number*	*Number*	*Number*	*Number*	*Numbe*
Crab	476	4, 080	35			4, 591	14, 4
Crawfish							9
Lobster				2, 644	2, 190	4, 834	4, 8
Octopus			22			22	
Harpoons—							
Whale		4				4	
Swordfish				24	47	71	
Turtle					4	4	
Tongs and dredges		6				6	1
Rakes		2	2			4	
Shovels	6	16	5	158		185	3, 1
Abalone outfits			11	7		18	

CATCH: BY STATES

Species	Washington		Oregon	
FISH	*Pounds*	*Value*	*Pounds*	*Value*
Carp	556, 856	$22, 274	12, 500	$5
Cod, dry salted	2, 884, 800	144, 390		
Cod tongues	14, 000	1, 400		
Flounders:				
"Sole"	222, 849	6, 685	84	
Other	123, 650	2, 473		
Grayfish	3, 203	16		
Halibut	11, 927, 858	1, 383, 823	425, 610	52, 6
Herring	1, 536, 570	15, 369	190	
"Lingcod"	996, 747	35, 952	62, 210	2, 4
Perch	75, 395	4, 469	3, 120	1
Pilchard or sardine			190	
Rockfishes	617, 563	22, 079	73, 702	3, 2
Sablefish	2, 335, 163	110, 525	279, 880	11, 5
Salmon	53, 838, 342	4, 773, 273	22, 574, 827	2, 324, 1
Shad	515, 423	9, 103	1, 344, 230	40, 3
Skates	1, 946	20		
Smelt	1, 405, 429	28, 108	19, 148	8
Steelhead trout	1, 631, 741	150, 524	1, 814, 480	163, 3
Striped bass			12, 897	1, 5
Sturgeon	84, 234	6, 739	88, 829	7, 9
Other fish	19, 593	571		
Total	78, 791, 362	6, 717, 793	26, 711, 897	2, 608, 8
SHELLFISH, ETC.				
Crabs	1, 521, 392	95, 145	492, 811	33, 6
Crawfish			158, 200	19, 7
Shrimp	36, 487	4, 378		
Clams:				
Hard	215, 131	32, 278		
Razor	1, 535, 136	298, 499	100, 769	19, 5
Mixed			9, 702	4, 0
Octopus	63, 227	3, 161		
Oysters:				
Eastern market	73, 640	31, 914		
Native market	614, 520	312, 594		
Scallops	17, 528	4, 733	432	4
Trepang or sea cucumber	6, 075	304		
Total	4, 083, 136	783, 006	761, 914	77, 5
Grand total	82, 874, 498	7, 500, 799	27, 473, 811	2, 686, 3

Fisheries of the Pacific Coast States, 1928—Continued

CATCH: BY STATES—Continued

Species	California[1]		Total	
	Pounds	*Value*	*Pounds*	*Value*
FISH				
Albacore	283, 321	$42, 324	283, 321	$42, 324
Anchovies	357, 470	4, 016	357, 470	4, 016
Barracuda	6, 452, 456	505, 838	6, 452, 456	505, 838
Bonito	2, 088, 333	67, 977	2, 088, 333	67, 977
Carp	157, 283	2, 501	726, 639	25, 275
Catfish	458, 392	63, 569	458, 392	63, 569
Cod, dry salted	2, 596, 670	146, 634	5, 481, 470	291, 024
Cod tongues	8, 000	1, 200	22, 000	2, 600
Eels	227	5	227	5
Flounders:				
"California halibut"	1, 187, 651	161, 774	1, 187, 651	161, 774
"Sole"	10, 280, 419	471, 519	10, 503, 352	478, 205
Other	1, 517, 098	79, 432	1, 640, 748	81, 905
Grayfish	623, 816	13, 275	627, 019	13, 291
Hake	108, 648	2, 173	108, 648	2, 173
Halibut	375, 746	39, 757	12, 729, 214	1, 476, 190
Hardhead	61, 699	6, 922	61, 699	6, 922
Herring	1, 139, 682	11, 814	2, 676, 442	27, 185
Horse mackerel	540, 352	18, 198	540, 352	18, 198
Kingfish	441, 758	12, 087	441, 758	12, 087
"Lingcod"	849, 056	32, 560	1, 908, 013	70, 983
Mackerel	35, 262, 494	617, 317	35, 262, 494	617, 317
Mullet	82, 739	8, 548	82, 739	8, 548
Perch	236, 934	12, 534	315, 449	17, 149
Pilchard or sardine	420, 269, 665	2, 323, 921	420, 269, 855	2, 323, 925
Pompano	30, 082	4, 433	30, 082	4, 433
Rock bass	625, 871	44, 132	625, 871	44, 132
Rockfishes	6, 419, 987	309, 900	7, 111, 252	335, 260
Sablefish	916, 955	37, 848	3, 531, 998	159, 943
Salmon	4, 478, 566	480, 711	80, 891, 735	7, 578, 148
Sculpin	99, 711	10, 047	99, 711	10, 047
Sea bass:				
Black	381, 705	19, 196	381, 705	19, 196
White or squeteague	1, 280, 738	165, 101	1, 280, 738	165, 101
Shad	2, 088, 878	69, 281	3, 948, 531	118, 711
Sheepshead	372, 677	15, 781	372, 677	15, 781
Skates	458, 926	9, 230	460, 872	9, 250
Skipjack or striped tuna	15, 814, 704	562, 216	15, 814, 704	562, 216
Smelt	916, 719	58, 534	2, 341, 296	87, 512
Splittail	10, 740	616	10, 740	616
Squawfish	3, 780	221	3, 780	221
Steelhead trout	----------	----------	3, 446, 221	313, 827
Striped bass	484, 113	74, 172	497, 010	75, 732
Stingray	3, 296	16	3, 296	16
Sturgeon	----------	----------	173, 063	14, 734
Suckers	1, 029	35	1, 029	35
Swordfish	426, 001	50, 903	426, 001	50, 903
Tomcod	11, 923	359	11, 923	359
Tuna:				
Bluefin	13, 700, 870	823, 401	13, 700, 870	823, 401
Yellowfin	32, 251, 246	1, 773, 788	32, 251, 246	1, 773, 788
Whitebait	135, 186	8, 854	135, 186	8, 854
Whitefish	222, 192	14, 371	222, 192	14, 371
Yellowtail	2, 683, 514	138, 978	2, 683, 514	138, 978
Other fish	196, 393	7, 857	215, 986	8, 428
Total	569, 395, 711	9, 325, 876	674, 898, 970	18, 652, 473
SHELLFISH, ETC.				
Crabs	3, 574, 734	290, 452	5, 588, 937	419, 198
Crawfish	----------	----------	158, 200	19, 775
Sea crawfish or spiny lobster	1, 076, 614	190, 469	1, 076, 614	190, 469
Shrimp	2, 280, 871	38, 269	2, 317, 358	42, 647
Abalone	420, 783	84, 953	420, 783	84, 953
Clams:				
Cockle	3, 020	2, 250	3, 020	2, 250
Hard	----------	----------	215, 131	32, 278
Pismo	31, 302	9, 502	31, 302	9, 502
Razor	----------	----------	1, 635, 905	318, 093
Soft	24, 855	10, 131	24, 855	10, 131
Mixed	6, 602	3, 331	10, 304	7, 405
Mussels	161	40	161	40
Octopus	6, 434	737	69, 661	3, 898
Oysters:				
Eastern market	72, 630	30, 699	146, 270	62, 613
Native market	4, 028	1, 726	618, 980	314, 800
Scallops	----------	----------	17, 528	4, 733

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[1] Taken off California and off Latin America.

Fisheries of the Pacific Coast States, 1928—Continued

CATCH: BY STATES—Continued

Species	California		Total	
	Pounds	*Value*	*Pounds*	*Value*
SHELLFISH, ETC.—continued				
Squid	1,351,992	$40,740	1,351,992	$40,740
Terrapin	168	20	168	20
Trepang or sea cucumber			6,075	304
Turtles	5,594	450	5,594	450
Total	8,859,788	703,769	13,704,838	1,564,299
WHALE PRODUCT				
Whale oil	4,880,639	296,000	4,880,639	296,000
Grand total	583,136,138	10,325,645	693,484,447	20,512,772

Industries related to the fisheries of the Pacific Coast States, 1928

Items	Washington	Oregon	California	Total
Transporting:				
Persons engaged	218	55	83	356
Vessels—				
Steam			1	1
Net tonnage			331	331
Motor	74	29	18	121
Net tonnage	1,504	334	1,405	3,243
Sail			4	4
Net tonnage			1,520	1,520
Total vessels	74	29	23	126
Total net tonnage	1,504	334	3,256	5,094
Wholesale trade:				
Establishments	33	17	59	109
Persons engaged	494	102	620	1,216
Salaries and wages paid	$834,550	$129,447	$1,153,053	$2,117,050
Prepared products and by-products industries:				
Establishments	63	36	67	166
Persons engaged	1,793	929	6,740	9,462
Salaries and wages paid	$1,236,632	$822,616	$3,947,370	$6,006,618
Products	$7,757,405	$5,123,278	$24,531,740	$37,412,423

WASHINGTON

In 1928 Washington ranked second among the Pacific Coast States in the importance of its fisheries, employing 44 per cent of the total number of fishermen and accounting for 12 per cent of the total catch. There were 8,797 fishermen employed which is 1 per cent less than in 1927. Of the total number of fishermen, 2,180 were employed on fishing vessels and 6,617 in the shore and boat fisheries.

The catch amounted to 82,874,498 pounds, valued at $7,500,799. This is a decrease of 34 per cent in the catch and 18 per cent in the value of the catch as compared with the catch and its value for 1927. Of the total value of the catch, salmon accounted for 64 per cent; halibut, 18 per cent; oysters, 5 per cent; and clams, 4 per cent. Of the total catch, salmon accounted for 65 per cent; halibut, 14 per cent; sablefish and dry-salted cod, each, 3 per cent; and steelhead trout, herring, smelts, crabs, and clams, each, 2 per cent.

Operating units.—The catch of fishery products from Puget Sound, the coastal and Columbia River districts of Washington was taken by 8,797 fishermen, 2 steam vessels, 346 motor vessels, 4 sailing vessels, 3,183 motor and other small boats, and 14 major types of gear. The vessels had a combined net tonnage of 7,847 net tons.

Fisheries of Washington, 1928

Species	Puget Sound district		Coastal district		Columbia River district	
FISH	*Pounds*	*Value*	*Pounds*	*Value*	*Pounds*	*Value*
Carp	----	----	----	----	556,856	$22,274
Cod, dry-salted	2,884,800	$144,390	----	----	----	----
Cod tongues	14,000	1,400	----	----	----	----
Flounders:						
"Sole"	222,849	6,685	----	----	----	----
Other	123,650	2,473	----	----	----	----
Grayfish	3,203	16	----	----	----	----
Halibut	11,927,858	1,383,823	----	----	----	----
Herring	1,536,170	15,361	400	$8	----	----
"Lingcod"	996,747	35,952	----	----	----	----
Perch	69,879	4,193	5,516	276	----	----
Rockfishes	617,563	22,079	----	----	----	----
Sablefish	2,335,163	110,525	----	----	----	----
Salmon:						
Blueback or sockeye	4,347,952	837,233	157,092	18,851	167,200	30,096
Chinook	10,083,510	1,217,343	726,999	46,104	6,622,783	1,125,874
Chum	10,448,090	417,925	3,861,216	75,505	2,812,905	70,323
Humpback	1,260,502	42,734	----	----	----	----
Silver	10,239,169	689,376	1,585,600	95,136	1,525,324	106,773
Shad	----	----	----	----	515,423	9,103
Skates	1,946	20	----	----	----	----
Smelt	247,010	4,940	----	----	1,158,419	23,168
Steelhead trout	106,740	12,810	63,273	6,159	1,461,728	131,555
Sturgeon	2,268	180	20,700	1,656	61,266	4,903
Other fish	19,554	570	39	1	----	----
Total	57,488,623	4,950,028	6,420,835	243.696	14,881,904	1,524,069
SHELLFISH						
Crabs	525,998	23,909	995,394	71,236	----	----
Shrimp	36,487	4,378	----	----	----	----
Clams:						
Hard	215,131	32,278	----	----	----	----
Razor	----	----	1,535,136	298.499	----	----
Octopus	63,227	3,161	----	----	----	----
Oysters:						
Eastern market	50,000	18,750	23,640	13,164	----	----
Native market	574,512	299,878	40,008	12,716	----	----
Scallops	17.528	4,733	----	----	----	----
Trepang or sea cucumber	6,075	304	----	----	----	----
Total	1,488,958	387,391	2,594,178	395,615	----	----
Grand total	58,977,581	5,337,419	9,015,013	639,311	14,881,904	1,524,069

PUGET SOUND DISTRICT

The Puget Sound district is comprised of Whatcom, Skagit, Snohomish, King, Pierce, Thurston, Mason, Kitsap, Island, and San Juan Counties and parts of Jefferson and Clallam Counties. The catch in this district in 1928 amounted to 58,977,581 pounds, valued at $5,337,419. Of the more important species comprising this catch, salmon amounted to 36,379,223 pounds, valued at $3,204,611; halibut 11,927,858 pounds, valued at $1,383,823; oysters 624,512 pounds, valued at $318,628; dry-salted cod 2,884,800 pounds, valued at $144,390; and sablefish 2,335,163 pounds, valued at $110,525.

Operating units.—The catch of fishery products in the Puget Sound district was taken by 4,356 fishermen who used 2 steam vessels, 341 motor vessels, 4 sailing vessels, 1,473 motor and other small boats, and 12 major types of gear. The vessels had a combined capacity of 7,818 net tons.

Catch by gear.—Three types of gear accounted for 91 per cent of the fishery products taken in the Puget Sound district during 1928. Listed in order of their importance they were, lines which accounted for 45 per cent of the catch, purse seines 24 per cent, and pound nets 22 per cent. The catch by lines was principally halibut, salmon, sablefish, and cod; and that by purse seines and pound nets was almost entirely salmon.

Fisheries of the Puget Sound district of Washington, 1928

OPERATING UNITS: BY GEAR

Items	Purse seines, salmon	Haul seines	Gill nets		Troll lines	Trawl, set, and hand lines	Pound nets	Brush weirs
			Drift, salmon	Set, salmon				
Fishermen:	*Number*	*Number*	*Number*	*Number*	*Number*	*Number*	*Number*	*Number*
On vessels	1,234	70	14	------	106	869	------	------
On boats and shore	20	243	393	15	739	96	272	20
Total	1,254	313	407	15	845	965	272	20
Vessels:								
Motor	164	21	7	------	53	107	------	------
Net tonnage	3,705	314	55	------	418	2,323	------	------
Sail	------	------	------	------	------	4	------	------
Net tonnage	------	------	------	------	------	1,384	------	------
Total vessels	164	21	7	------	53	111	------	------
Total net tonnage	3,705	314	55	------	418	3,707	------	------
Boats:								
Motor	4	81	333	------	570	22	141	10
Other	------	70	5	15	------	44	84	8
Apparatus:								
Number	168	103	340	16	3,720	27,742	180	12
Length, yards	100,300	9,995	------	------	------	------	------	------
Square yards	------	------	629,074	5,910	------	------	------	------
Hooks	------	------	------	------	8,814	565,136	------	------

Items	Drag bag nets	Reef nets	Beam trawls	Crab traps	Tongs	Shovels	Total, exclusive of duplication
Fishermen:	*Number*	*Number*	*Number*	*Number*	*Number*	*Number*	*Number*
On vessels	12	------	40	4	------	------	2,170
On boats and shore	87	8	33	140	70	262	2,186
Total	99	8	73	144	70	262	4,356
Vessels:							
Steam	------	------	2	------	------	------	2
Net tonnage	------	------	16	------	------	------	16
Motor	4	------	17	2	------	------	341
Net tonnage	96	------	222	37	------	------	6,418
Sail	------	------	------	------	------	------	4
Net tonnage	------	------	------	------	------	------	1,384
Total vessels	4	------	19	2	------	------	347
Total net tonnage	96	------	238	37	------	------	7,818
Boats:							
Motor	37	3	17	115	6	------	1,154
Other	20	4	------	------	74	------	319
Apparatus:							
Number	45	8	36	2,340	79	262	------
Length, yards	3,878	------	------	------	------	------	------
Yards at mouth	------	------	221	------	------	------	------

Fisheries of the Puget Sound district of Washington, 1928—Continued

CATCH: BY GEAR

Species	Purse seines		Haul seines		Drift gill nets		Set gill nets	
	Pounds	*Value*	*Pounds*	*Value*	*Pounds*	*Value*	*Pounds*	*Value*
FISH								
Flounders:								
"Sole"	35	$1	6, 608	$198			5, 844	$175
Other	18	1	13, 165	263				
Herring			985, 340	9, 853				
"Lingcod"			2, 660	96			3, 161	61
Perch	300	18	55, 151	3, 309			1, 260	76
Rockfishes	405	28	7, 879	552			2, 494	133
Salmon:								
Blueback or Sockeye	519, 456	72, 724	43, 456	8, 691	19, 439	$2, 777		
Chinook	267, 295	18, 711	19, 008	2, 281	686, 290	82, 355		
Chum	8, 531, 190	341, 248	15, 690	628	472, 390	18, 896	90	4
Humpback	1, 229, 666	41, 809	380	11				
Silver	3, 327, 784	166, 389	10, 728	858	520, 736	41, 659	10, 312	825
Skates			567	6				
Smelt			135, 155	2, 703			181	4
Steelhead trout	2, 205	265			23, 175	2, 781		
Other fish	42	1	5, 672	113				
Total	13, 878, 396	641, 195	1, 301, 459	29, 562	1, 722, 030	148, 468	23, 342	1, 278
SHELLFISH, ETC.								
Octopus			263	13			2, 425	121
Grand total	13, 878, 396	641, 195	1, 301, 722	29, 575	1, 722, 030	148, 468	25, 767	1, 399

Species	Troll lines		Trawl lines		Set and hand lines		Pound nets	
	Pounds	*Value*	*Pounds*	*Value*	*Pounds*	*Value*	*Pounds*	*Value*
FISH								
Cod, dry salted			2, 884, 800	$144, 390				
Cod, tongues			14, 000	1, 400				
Flounders:								
"Sole"							66	$2
Other					193	$4	3, 468	69
Grayfish					3, 000	15		
Halibut	8, 558	$1, 027	11, 882, 494	1, 378, 525	36, 480	4, 222	295	44
Herring							2, 295	23
"Lingcod"	42, 306	846	910, 967	33, 582	30, 694	1, 228	3, 054	61
Perch					466	28	823	49
Rockfishes	2, 339	70	576, 476	20, 054	4, 155	279	18, 031	558
Sablefish			9, 335, 163	110, 525				
Salmon:								
Blueback or Sockeye	1, 302	182					3, 762, 437	752, 487
Chinook	4, 744, 379	590, 011					4, 365, 746	523, 890
Chum	70	3					1, 427, 080	57, 083
Humpback	796	24					29, 610	888
Silver	2, 862, 793	199, 100					3, 494, 552	279, 564
Skates					953	10	346	3
Steelhead trout	1, 305	157					80, 055	9, 607
Sturgeon							2, 268	180
Other fish	4, 372	267			1, 363	27	2, 737	55
Total	7, 668, 220	791, 687	18, 603, 900	1, 688, 476	77, 304	5, 813	13, 192, 863	1, 624, 563
SHELLFISH, ETC.								
Octopus					59, 904	2, 995	437	22
Grand total	7, 668, 220	791, 687	18, 603, 900	1, 688, 476	137, 208	8, 808	13, 193, 300	1, 624, 585

Fisheries of the Puget Sound district of Washington, 1928—Continued

CATCH: BY GEAR—Continued

Species	Brush weirs		Drag bag nets		Reef nets		Beam trawls	
FISH	*Pounds*	*Value*	*Pounds*	*Value*	*Pounds*	*Value*	*Pounds*	*Value*
Flounders:								
"Sole"			127	$4			210,169	$6,305
Other			463	9			106,343	2,127
Grayfish							203	1
Halibut							31	5
Herring	514,000	$5,144	34,135	341				
"Lingcod"							3,905	78
Perch			11,849	711			30	2
Rockfishes							5,784	405
Salmon:								
Blueback or Sockeye					1,862	$372		
Chinook					792	95		
Chum					1,580	63		
Humpback					50	2		
Silver					12,264	981		
Skates							80	1
Smelt			111,674	2,233				
Other fish			868	17			4,500	90
Total	514,400	5,144	159,116	3,315	16,548	1,513	331,045	9,014
SHELLFISH, ETC.								
Shrimp							36,487	4,378
Octopus			55	3			143	7
Scallops							17,528	4,733
Trepang or sea cucumber							6,075	304
Total			55	3			60,233	9,422
Grand total	514,400	5,144	159,171	3,318	16,548	1,513	391,278	18,436

Species	Crab traps		Tongs		Shovels	
SHELLFISH, ETC.	*Pounds*	*Value*	*Pounds*	*Value*	*Pounds*	*Value*
Clams, hard					215,131	$32,278
Crabs	525,998	$23,909				
Oysters:						
Eastern market			50,000	$18,750		
Native market			574,512	299,878		
Total	525,998	$23,909	624,512	318,628	215,131	32,278

COASTAL DISTRICT

The coastal district is comprised of Grays Harbor County and parts of Jefferson, Clallam, and Pacific Counties. The catch in the coastal district amounted to 9,015,013 pounds, valued at $639,311. Considered according to value the important species comprising this catch were razor clams, 1,535,136 pounds of meats, valued at $298,499; salmon, 6,330,907 pounds, valued at $235,596; and crabs, 995,394 pounds, valued at $71,236.

Operating units.—The catch of fishery products in the coastal district of Washington during 1928 was taken by 2,896 fishermen who used 4 motor vessels, 523 motor and other small boats, and 6 major types of gear. The vessels had a combined capacity of 24 net tons.

Catch by gear.—Four types of gear accounted for 99 per cent of the fishery products taken in this district during 1928. In the order of their importance they were pound nets, which accounted for 37 per cent of the catch; gill nets, 36 per cent; shovels, 17 per cent; and crab traps, 11 per cent. The catch by pound nets and gill nets consisted almost entirely of salmon, that by shovels entirely razor clams, and that by crab traps exclusively crabs.

Fisheries of the coastal district of Washington, 1928

OPERATING UNITS: BY GEAR

Items	Gill nets		Troll lines	Set lines	Pound nets	Crab traps	Tongs and dredges	Shovels	Total, exclusive of duplication
	Drift, salmon	Set, salmon							
Fishermen:	*Number*	*Number*	*Number*	*Number*	*Number*	*Number*	*Number*	*Number*	*Number*
On vessels						4	4		8
On boats and shore	147	121	10	24	106	80	30	2, 478	2, 888
Total	147	121	10	24	106	84	34	2, 478	2, 896
Vessels, motor						2	2		4
Net tonnage						14	10		24
Boats:									
Motor	116	66	7	2	83	80	4		295
Other		116		22	82		11		228
Apparatus:									
Number	116	185	35	52	184	3, 850	35	2, 478	
Square yards	264, 200	86, 148							
Hooks			70	6, 300					

CATCH: BY GEAR

Fish	Drift gill nets		Set gill nets		Troll and set lines		Pound nets	
	Pounds	*Value*	*Pounds*	*Value*	*Pounds*	*Value*	*Pounds*	*Value*
Herring					400	$8		
Perch					5, 516	276		
Salmon:								
Blueback or sockeye			157, 092	$18, 851				
Chinook	277, 380	$16, 643	149, 975	11, 752	253	16	299, 391	$17, 693
Chum	511, 188	10, 224	1, 021, 056	18, 702			2, 328, 972	46, 579
Silver	245, 930	14, 756	644, 500	38, 670	80	5	695, 090	41, 705
Steelhead trout	8, 410	841	29, 583	2, 790			25, 280	2, 528
Sturgeon	19, 200	1, 536					1, 500	120
Other fish							39	1
Total	1, 062, 108	44, 000	2, 002, 206	90, 765	6, 249	305	3, 350, 272	108, 626

Shellfish	Crab traps		Tongs and dredges		Shovels	
	Pounds	*Value*	*Pounds*	*Value*	*Pounds*	*Value*
Crabs	995, 394	$71, 236				
Clams, razor					1, 535, 136	$298, 499
Oysters:						
Eastern market			23, 640	$13, 164		
Native market			40, 008	12, 716		
Total	995, 394	71, 236	63, 648	25, 880	1, 535, 136	298, 499

COLUMBIA RIVER DISTRICT

The Columbia River district is comprised of Wahkiakum, Cowlitz, Clarke, Skamania, Klickitat, Benton, Walla Walla, and Asotin Counties and part of Pacific County. The catch in this district amounted to 14,881,904 pounds, valued at $1,524,069. Considered according to value the more important species comprising this catch were salmon, 11,128,212 pounds, valued at $1,333,066; and steelhead trout, 1,461,728 pounds, valued at $131,555.

Operating units.—The catch of fishery products in the Columbia River district of Washington during 1928 was taken by 1,545 fishermen who used 1 motor vessel, 1,187 motor and other small boats, and 6 major types of gear. The motor vessel had a capacity of 5 net tons.

Catch by gear.—Four types of gear accounted for 92 per cent of the fishery products taken in this district during 1928. In the order of their importance they were, gill nets which accounted for 36 per cent of the catch; pound nets, 33 per cent; haul seines, 15 per cent; and dip nets, 8 per cent. The catch by gill nets, pound nets, and haul seines was principally salmon and that by dip nets was almost exclusively smelt.

Fisheries of the Columbia River district of Washington, 1928

OPERATING UNITS: BY GEAR

Items	Haul seines	Gill nets		Troll lines	Set lines	Pound nets	Fish wheels	Dip nets	Total, sive of duplication
		Drift, salmon	Set, salmon						
Fishermen:	*Number*	*Number*	*Number*	*Number*	*Number*	*Number*	*Number*	*Number*	*Number*
On vessels				2					2
On boats and shore	487	512	128	180	16	193	22	143	1,543
Total	487	512	128	182	16	193	22	143	1,545
Vessels, motor				1					1
Net tonnage				5					5
Boats:									
Motor	38	464	117	149	10	137		82	317
Other	59		96		8	124			270
Apparatus:									
Number	50	465	346	748	47	304	30	143	
Length, yards	27,493								
Square yards		1,114,880	84,320						
Hooks				1,576	4,225				

CATCH: BY GEAR

Species	Haul seines		Drift gill nets		Set gill nets		Troll lines	
	Pounds	*Value*	*Pounds*	*Value*	*Pounds*	*Value*	*Pounds*	*Value*
Carp	556,856	$22,274						
Salmon:								
Blueback or sockeye	20,395	3,671	68,215	$12,279	11,390	$2,050		
Chinook	975,476	165,831	2,764,715	470,002	110,377	18,764	231,819	$39,409
Chum	95,580	2,390	1,538,982	38,475	44,496	1,112		
Silver	34,090	2,386	187,740	13,142	12,780	895	591,554	41,409
Shad	241,274	3,619	184,495	3,690	1,481	30		
Steelhead trout	241,840	21,766	320,670	28,860	120,290	10,826	458	41
Sturgeon	658	53	31,869	2,550	11,594	928		
Total	2,166,169	221,990	5,096,686	568,998	312,408	34,605	823,831	80,859

Species	Set lines		Pound nets		Fish wheels		Dip nets	
Salmon:	*Pounds*	*Value*	*Pounds*	*Value*	*Pounds*	*Value*	*Pounds*	*Value*
Blueback or sockeye			36,720	$6,610	30,480	$5,486		
Chinook			2,273,780	386,543	266,041	45,227	575	$98
Chum			1,133,847	28,346				
Silver			699,070	48,935	70	5	20	1
Shad			51,785	1,036	36,388	728		
Smelt							1,158,419	23,168
Steelhead trout			742,760	66,848	35,640	3,208	70	6
Sturgeon	826	$66	8,448	676	7,871	630		
Total	826	66	4,946,410	538,994	376,490	55,284	1,159,084	23,273

INDUSTRIES RELATED TO THE FISHERIES

Transporting trade.—There were 218 persons engaged in Washington during 1928 in transporting the catch of fish. In this trade 74 motor vessels having a total capacity of 1,504 net tons were operated.

Wholesale trade.—There were 33 wholesale establishments in the Puget Sound, coastal, and Columbia River districts of Washington engaged chiefly in handling fresh and frozen products. This is 30 per cent of the total number of such establishments in the Pacific coast section. These establishments employed 494 persons, who received $834,550 in salaries and wages.

Prepared and by-products trade.—There were 63 establishments in Washington engaged primarily in the manufacture of prepared fishery products or by-products. This is 38 per cent of the total number in the Pacific coast section. They employed 1,793 persons who received $1,236,632 in salaries and wages. The products manufactured, consisting principally of canned and mild-cured salmon and canned clams, were valued at $7,757,405. Detailed statistics of most of the items manufactured may be obtained from Fishery Industries of the United States, 1928, Bureau of Fisheries Document 1067.

Industries related to the fisheries of Washington, 1928

TRANSPORTING

Items	Number
Men on transporting vessels	218
Transporting vessels, motor	74
Net tonnage	1,504

WHOLESALE FISHERY TRADE

Items	Puget Sound district	Columbia River and coastal districts	Total
Establishments	28	5	33
Persons engaged:			
Proprietors and salaried employees	137	7	144
Wage earners	329	21	350
Paid to salaried employees	$305,629	$11,500	$317,129
Paid to wage earners	501,214	16,207	517,421
Total salaries and wages	806,843	27,707	834,550

PREPARED FISHERY PRODUCTS AND BY-PRODUCTS

Items	Number
Establishments	63
Persons engaged:	
Proprietors and salaried employees	259
Wage earners	1,534
Paid to salaried employees	$389,934
Paid to wage earners	846,698
Total salaries and wages	1,236,632

Products	Quantity	Value
Salted sablefish ... pounds	231,200	$27,744
Mild-cured:		
Chinook salmon ... do	3,584,625	1,254,619
Silver salmon ... do	400,950	128,304
Miscellaneous, salted and smoked fish		272,165
Canned:		
Salmon ... standard cases[1]	497,400	5,023,996
Razor clams—		
Whole ... do	5,871	51,434
Minced ... do	82,682	728,077
Hard clams—		
Whole ... do	12,452	55,273
Other clam products ... do	2,059	5,295
Shad ... do	6,756	33,789
Shad roe ... do	889	10,376
Salmon eggs ... do	3,970	99,455
Miscellaneous[2]		908
By-products[3]		65,970
Total		7,757,405

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[1] A standard case contains forty-eight 1-pound cans of salmon, shad, shad roe, and salmon eggs or forty-eight No. 1 cans of clam products.

[2] Includes canned scallops, crabs, halibut fillets, and herring (for bait).

[3] Includes salmon oil and meal.

OREGON

In 1928 Oregon employed 21 per cent of the total number of fishe
men and accounted for 4 per cent of the total catch of the Paci
coast section. There were 4,092 fishermen employed, which is
per cent less than in 1927. Of this total, 95 were employed on fishi
vessels and 3,997 in the shore and boat fisheries. The catch amount
to 27,473,811 pounds valued at $2,686,328. This is a decrease of
per cent in the catch and 13 per cent in the value of the catch
compared with the catch and its value for 1927. Of the total value
the catch, salmon accounted for 87 per cent and steelhead trou
6 per cent. Of the total production, salmon accounted for 82 per cer
steelhead trout, 7 per cent; and shad 5 per cent.

Operating units.—The catch of fishery products from the Columb
River and coastal districts of Oregon was taken by 4,092 fisherme
23 motor vessels, 2,547 motor and other small boats, and 8 maj
types of gear. The vessels had a combined capacity of 216 net ton

Fisheries of Oregon, 1928

Species	Columbia River district		Coastal district	
FISH	*Pounds*	*Value*	*Pounds*	*Valu*
Carp	12, 500	$500		
Flounders, "sole"			84	
Halibut	122, 017	16, 213	303, 593	36,
Herring			190	
"Lingcod"	10, 366	397	51, 844	2,
Perch			3, 120	
Pilchard			190	
Rockfishes	56, 872	2, 608	16, 830	
Sablefish	112, 564	4, 877	167, 316	6,
Salmon:				
Blueback or sockeye	152, 277	27, 411		
Chinook	10, 308, 655	1, 546, 296	1, 695, 592	256,
Chum	2, 065, 343	52, 123	3, 178, 827	79,
Silver	1, 751, 100	122, 556	3, 423, 033	239,
Shad	697, 296	20, 919	646, 934	19,
Smelt	10, 000	500	9, 148	
Steelhead trout	1, 130, 579	101, 752	683, 901	61,
Striped bass			12, 897	1,
Sturgeon	86, 256	7, 763	2, 573	
Total	16, 515, 825	1, 903, 915	10, 196, 072	704,
SHELLFISH, ETC.				
Crabs			492, 811	33,
Crawfish	158, 200	19, 775		
Clams:				
Razor			100, 769	19,
Mixed			9, 702	4,
Oysters, native market			432	
Total	158, 200	19, 775	603, 714	57,
Grand total	16, 674, 025	1, 923, 690	10, 799, 786	762,

COLUMBIA RIVER DISTRICT

The Columbia River district is comprised of Columbia, Washingto
Multnomah, Hood River, Wasco, Clackamas, Marion, Yamh
Counties and part of Clatsop County. The catch in this distri
amounted to 16,674,025 pounds, valued at $1,923,690. Consider
according to value the more important species comprising this cat
are salmon, 14,277,375 pounds, valued at $1,748,386; steelhead trou
1,130,579 pounds, valued at $101,752; and shad, 697,296 pound
valued at $20,919.

Operating units.—The catch of fishery products in the Columbia River district of Oregon during 1928 was taken by 2,449 fishermen, who used 23 motor vessels, 1,287 motor and other small boats, and 6 major types of gear. The combined capacity of the vessels amounted to 216 net tons.

Catch by gear.—Four types of gear accounted for 98 per cent of the fishery products taken in this district during 1928. Listed in order of their importance they were gill nets, which accounted for 60 per cent of the catch; haul seines, 20 per cent; lines, 14 per cent; and pound nets, 4 per cent. The catch by each of these gears was principally salmon and steelhead trout.

Fisheries of the Columbia River district of Oregon, 1928

OPERATING UNITS: BY GEAR

Items	Haul seines	Gill nets		Troll lines	Trawl and set lines	Pound nets	Dip nets	Craw-fish traps	Total, exclusive of duplication
		Drift, salmon	Set, salmon						
Fishermen:	*Number*	*Number*	*Number*	*Number*	*Number*	*Number*	*Number*	*Number*	*Number*
On vessels				38	42				70
On boats and shore	672	1,441	84	225	12	51	188	46	2,379
Total	672	1,441	84	263	54	51	188	46	2,449
Vessels, motor				15	11				23
Net tonnage				128	108				216
Boats:									
Motor	42	927	81	184	12	34	12	46	1,222
Other	62		3						65
Apparatus:									
Number	54	927	205	1,134	246	70	188	920	
Length, yards	31,140								
Square yards		2,976,330	62,630						
Hooks				3,244	32,000				

CATCH: BY GEAR

Species	Haul seines		Gill nets		Troll lines	
FISH	*Pounds*	*Value*	*Pounds*	*Value*	*Pounds*	*Value*
Carp	12,500	$500				
Salmon:						
Blueback or sockeye	48,004	8,641	97,332	$17,520		
Chinook	2,385,271	357,791	6,875,216	1,031,280	726,789	$109,018
Chum	99,149	2,479	1,853,369	46,334	2,174	544
Silver	86,719	6,070	303,069	21,195	1,219,932	85,395
Shad	345,667	10,370	317,339	9,520		
Steelhead trout	434,835	39,135	486,397	43,776	1,670	150
Sturgeon	2,127	191	59,989	5,399		
Total	3,414,272	425,177	9,992,711	1,175,024	1,950,565	195,107

Species	Trawl and set lines		Pound nets		Dip nets		Crawfish traps	
FISH	*Pounds*	*Value*	*Pounds*	*Value*	*Pounds*	*Value*	*Pounds*	*Value*
Halibut	122,017	$16,213						
"Lingcod"	10,366	397						
Rockfishes	56,872	2,608						
Sablefish	112,564	4,877						
Salmon:								
Blueback or sockeye			6,253	$1,126	688	$124		
Chinook			240,291	36,044	81,088	12,163		
Chum			106,487	2,662	4,164	104		
Silver			139,574	9,770	1,806	126		
Shad			34,290	1,029				
Smelt					10,000	500		
Steelhead trout			154,081	13,867	53,596	4,824		
Sturgeon	13,262	1,194	1,294	116	9,584	863		
SHELLFISH								
Crawfish							158,200	$19,775
Total	315,081	25,289	682,270	64,614	160,926	18,704	158,200	19,775

COASTAL DISTRICT

The coastal district is comprised of Tillamook, Lincoln, Lane Douglas, Coos, Curry Counties, and part of Clatsop County. The catch in this district amounted to 10,799,786 pounds valued a $762,638. Considered according to value, the more important species were salmon, 8,297,452 pounds, valued at $575,778; steelhea trout, 683,901 pounds, valued at $61,551; and halibut, 303,59 pounds, valued at $36,397.

Operating units.—The catch of fishery products in the coastal district of Oregon during 1928 was taken by 1,643 fishermen, who use 9 motor vessels, 1,280 motor and other small boats, and 6 major type of gear. The combined capacity of the vessels was 81 net tons.

Catch by gear.—Two types of gear accounted for 95 per cent of th fishery products taken in this district during 1928. Listed in orde of their importance they were gill nets, which accounted for 77 pe cent, and lines 18 per cent. The catch by gill nets was principall salmon and that by lines principally salmon, halibut, and sablefish.

Fisheries of the coastal district of Oregon, 1928

OPERATING UNITS: BY GEAR

Items	Haul seines	Gill nets		Troll lines	Trawl and set lines	Crab traps	Tongs	Shovels	Total, exclusive of duplication
		Drift, salmon	Set, salmon						
Fishermen:	*Number*	*Number*	*Number*	*Number*	*Number*	*Number*	*Number*	*Number*	*Numbe*
On vessels				12	13				2
On boats and shore	6	684	499	193	20	179	2	230	1, 61
Total	6	684	499	205	33	179	2	230	1, 64
Vessels, motor				5	4				
Net tonnage				37	44				8
Boats:									
Motor	2	523	181	139	10	179	1		92
Other	2	10	337				2		33
Apparatus:									
Number	2	533	802	884	210	3, 660	2	230	
Length, yards	400								
Square yards		540, 813	156, 956						
Hooks				2, 304	29, 400				

CATCH: BY GEAR

Fish	Haul seines		Gill nets		Troll lines		Trawl and set lines	
	Pounds	*Value*	*Pounds*	*Value*	*Pounds*	*Value*	*Pounds*	*Value*
Flounders, "sole"	84	$1						
Halibut							303, 593	$36, 39
Herring	190	2						
"Lingcod"							51, 844	2, 07
Perch	3, 120	146						
Pilchard	190	4						
Rockfishes							16, 830	67
Sablefish							167, 316	6, 69
Salmon:								
Chinook			1, 459, 962	$218, 994	235, 630	$37, 701		
Chum			3, 178, 827	79, 471				
Silver			2, 305, 455	161, 382	1, 117, 578	78, 230		
Shad			646, 934	19, 408				
Smelt	9, 148	370						
Steelhead trout			683, 199	61, 488	702	63		
Striped bass			12, 897	1, 560				
Sturgeon			2, 573	232				
Total	12, 732	523	8, 289, 847	542, 535	1, 353, 910	115, 994	539, 583	45, 83

Fisheries of the coastal district of Oregon, 1928—Continued

CATCH: BY GEAR—Continued

Shellfish	Crab traps		Tongs		Shovels	
	Pounds	*Value*	*Pounds*	*Value*	*Pounds*	*Value*
Crabs	492, 811	$33, 601				
Clams:						
Razor					100, 769	$19, 594
Mixed					9, 702	4, 074
Oysters, native market			432	$480		
Total	492, 811	33, 601	432	480	110, 471	23, 668

INDUSTRIES RELATED TO THE FISHERIES

Transporting trade.—There were 55 persons in Oregon during 1928 engaged in transporting the catch of fish. In this trade 29 motor vessels having a total capacity of 334 net tons were operated.

Wholesale trade.—There were 17 wholesale establishments in the Columbia River and coastal districts of Oregon engaged primarily in handling fresh and frozen products. This is 16 per cent of the total number of such establishments in the Pacific coast section. These establishments employed 102 persons, who received $129,447 in salaries and wages.

Prepared and by-products trade.—There were 36 establishments in Oregon during 1928 engaged primarily in the manufacture of prepared fishery products or by-products. This is 22 per cent of the total number in the Pacific coast section. They employed 929 persons, who received $822,616 in salaries and wages. The products manufactured, consisting principally of canned and mild-cured salmon, were valued at $5,123,278. Detailed statistics of most of the items manufactured may be obtained from Fishery Industries of the United States, 1928, Bureau of Fisheries Document No. 1067.

Industries related to the fisheries of Oregon, 1928

TRANSPORTING

Items	Number
Men on transporting vessels	55
Transporting vessels, motor	29
Net tonnage	334

WHOLESALE FISHERY TRADE

Items	Columbia River district	Coastal district	Total
Establishments	7	10	17
Persons engaged:			
Proprietors and salaried employees	13	13	26
Wage earners	42	34	76
Paid to salaried employees	$21, 421	$22, 681	$44, 102
Paid to wage earners	46, 360	38, 985	85, 345
Total salaries and wages	67, 781	61, 666	129, 447

Industries related to the fisheries of Oregon, 1928—Continued

PREPARED FISHERY PRODUCTS AND BY-PRODUCTS

Items	Number
Establishments	36
Persons engaged:	
Proprietors and salaried employees	124
Wage earners	805
Paid to salaried employees	$241, 598
Paid to wage earners	581, 018
Total salaries and wages	822, 616

Products	Quantity	Value
Mild-cured:		
Chinook salmon ..... pounds	1, 223, 475	$428, 216
Silver salmon ..... do	1, 202, 850	276, 656
Canned:		
Salmon ..... standard cases [1]	342, 981	4, 187, 546
Shad ..... do	9, 216	46, 317
Shad roe ..... do	1, 799	63, 012
Razor clam products—		
Whole ..... do	369	3, 445
Minced ..... do	5, 109	46, 392
Other products [2]		68, 694
Total		5, 120, 278

[1] A standard case contains forty-eight 1-pound cans of salmon, shad, and shad roe, or forty-eight No. cans of clam products.

[2] Includes canned salmon eggs (for bait), dried scrap and meal, and salmon oil.

CALIFORNIA

In 1928 California was by far the most important among the Pacific Coast States in regard to fisheries, employing 35 per cent of the total number of fishermen and accounting for 84 per cent of the total catch. There were 6,844 fishermen employed, which is 3 per cent less than in 1927. Of this number 2,967 were engaged on fishing vessels and 3,877 in the shore and boat fisheries.

The catch amounted to 583,136,138 pounds, valued at $10,325,645. This is an increase of 19 per cent in the catch and 3 per cent in the value of the catch as compared with the catch and its value for 1927. Of the total value of the catch, that for pilchard or sardine accounted for 23 per cent; yellowfin tuna, 17 per cent; bluefin tuna, 8 per cent; flounders, 7 per cent; mackerel, 6 per cent; and skipjack or striped tuna and barracuda, each, 5 per cent. Of the total production, pilchard or sardine accounted for 72 per cent; mackerel and yellowfin tuna, each, 6 per cent; skipjack or striped tuna, 3 per cent; and bluefin tuna and flounders, each, 2 per cent. Of the total catch, 530,760,185 pounds valued at $7,399,214 were taken off the coast of California. The remainder of the catch was taken off the coast of Latin America, except the salted cod which was taken in Alaska waters.

Operating units.—The catch of fishery products from the northern San Francisco, Monterey, and southern districts of California was taken by 6,844 fishermen, 4 steam vessels, 427 motor vessels, 4 sailing vessels, 2,087 motor and other small boats, and 17 major types of gear. The vessels had a combined capacity of 10,281 net tons.

Fisheries of California, 1928

CATCH: BY DISTRICTS

Species	Northern district		San Francisco district		Monterey district		Southern district—off California San Pedro division	
FISH	*Pounds*	*Value*	*Pounds*	*Value*	*Pounds*	*Value*	*Pounds*	*Value*
Albacore					180	$27	258, 988	$38, 674
Anchovies			125, 515	$1, 255	175, 486	1, 972	55, 739	775
Barracuda					984	112	3, 533, 739	188, 419
Bonito					706	38	636, 644	20, 537
Carp	74, 894	$262	82, 589	2, 239				
Catfish	73, 917	10, 791	384, 475	52, 778				
Cod, dry salted			[1] 2, 596, 670	146, 634				
Cod tongues			[1] 8, 000	1, 200				
Eels			5	1			222	4
Flounders:								
"California halibut"					21, 667	2, 677	776, 684	104, 251
"Sole"	222, 041	8, 807	7, 958, 700	358, 174	1, 810, 944	90, 647	280, 051	12, 818
Other	93, 190	4, 652	1, 151, 038	57, 422	255, 190	12, 425	17, 680	4, 933
Grayfish	260	5	400, 478	8, 009	81, 240	1, 631	128, 379	3, 424
Hake			76, 047	1, 521	32, 601	652		
Halibut	350, 823	37, 026	24, 923	2, 731				
Hardhead	11, 090	39	50, 609	6, 883				
Herring	61, 442	1, 009	1, 054, 578	10, 546	565	7	570	20
Horse mackerel					28, 944	1, 095	509, 502	16, 987
Kingfish			26, 785	1, 072	91, 494	4, 815	319, 361	6, 071
"Lingcod"	108, 332	3, 202	524, 717	18, 323	214, 961	10, 971	1, 046	64
Mackerel			2, 262	68	1, 296, 914	39, 335	31, 244, 073	533, 347
Mullet							5, 495	531
Perch	41, 465	1, 472	86, 996	2, 723	24, 062	1, 163	77, 353	6, 802
Pilchard or sardine	87	4	26, 965, 736	144, 837	221, 568, 278	1, 220, 958	164, 619, 004	909, 095
Pompano					2, 203	1, 077	860	410
Rock bass							417, 809	31, 324
Rockfishes	107, 264	2, 661	998, 258	47, 627	2, 286, 344	89, 207	1, 800, 147	99, 882
Sablefish	385, 185	15, 126	342, 029	15, 391	183, 068	6, 790	6, 673	541
Salmon	2, 774, 315	277, 837	1, 369, 592	161, 900	334, 654	40, 973	5	1
Sculpin					2, 628	296	61, 095	6, 099
Sea bass:								
Black							66, 096	3, 843
White or squeteague			35, 915	5, 388	25, 894	3, 109	572, 101	72, 093
Shad			2, 088, 878	69, 281				
Sheepshead							337, 640	14, 476
Skates	2, 340	47	315, 517	6, 310	112, 550	2, 284	25, 785	537
Skipjack or striped tuna					1, 194	60	1, 286, 225	48, 223
Smelt	63, 161	3, 876	113, 706	9, 524	171, 502	13, 295	543, 492	30, 136
Splittail			10, 740	616				
Squawfish			3, 780	221				
Striped bass			484, 113	74, 172				
Suckers			1, 029	35				
Swordfish							103, 805	13, 254
Tomcod			11, 798	354	125	5		
Tuna:								
Bluefin							11, 592, 489	689, 930
Yellowfin							77, 402	5, 177
Whitebait	116, 716	7, 256	14, 621	1, 241	3, 849	357		
Whitefish							103, 720	8, 367
Yellowtail							292, 228	15, 291
Other fish	6, 756	135	30, 014	889	20, 542	572	124, 423	5, 234
Total	4, 493, 278	374, 207	47, 339, 913	1, 209, 365	228, 748, 769	1, 546, 550	219, 876, 525	2, 891, 570
SHELLFISH, ETC.								
Crabs	86, 088	7, 174	3, 014, 760	251, 230	473, 616	32, 038	270	10
Sea crawfish or spiny lobster							223, 975	52, 948
Shrimp			2, 280, 871	38, 269				
Abalone					409, 975	81, 995	10, 808	2, 958
Clams:								
Cockle	34	11	2, 986	2, 239				
Pismo					539	162	30, 763	9, 340
Soft	95	24	24, 642	10, 054	20	7	98	46
Mixed	1, 346	378	5, 103	2, 892	153	61		
Mussels			24	12	137	28		
Octopus			2, 553	255	3, 831	468	50	14
Oysters:								
Eastern, market			72, 630	30, 699				
Native, market			4, 028	1, 726				

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[1] The catch of cod was made in Alaska waters.

Fisheries of California, 1928—Continued

CATCH: BY DISTRICTS—Continued

Species	Northern district		San Francisco district		Monterey district		Southern district—off California	
							San Pedro division	
	Pounds	*Value*	*Pounds*	*Value*	*Pounds*	*Value*	*Pounds*	*Value*
SHELFISH, ETC.—contd.								
Squid					1, 351, 992	$40, 740		
Terrapin			168	$20				
Total	87, 563	$7, 587	5, 407, 765	337, 396	2, 240, 263	155, 499	265, 964	$65, 316
WHALE PRODUCT								
Whale oil			4, 880, 639	296, 000				
Grand total	4, 580, 841	381, 794	57, 628, 317	1, 842, 761	230, 989, 032	1, 702, 049	220, 142, 489	2, 956, 886

Species	Southern district—off California		Southern district—off Latin America				Total, southern district	
	San Diego division		San Pedro division		San Diego division			
FISH	*Pounds*	*Value*	*Pounds*	*Value*	*Pounds*	*Value*	*Pounds*	*Value*
Albacore	24, 153	$3, 623					283, 141	$42, 297
Anchovies	730	14					56, 469	789
Barracuda	850, 491	52, 440	1, 713, 038	$221, 714	354, 204	$43, 153	6, 451, 472	505, 726
Bonito	680, 613	20, 069	711, 645	25, 348	58, 725	1, 985	2, 087, 627	67, 939
Eels							222	4
Flounders:								
"California halibut"	133, 938	18, 220	1, 178	198	254, 184	36, 428	1, 165, 984	159, 097
"Sole"	8, 683	1, 073					288, 734	13, 891
Other							17, 680	4, 933
Grayfish	13, 459	206					141, 838	3, 630
Herring	22, 527	232					23, 097	252
Horse mackerel			1, 906	116			511, 408	17, 103
Kingfish	4, 118	129					323, 479	6, 200
"Lingcod"							1, 046	64
Mackerel	2, 708, 049	43, 880			11, 196	687	33, 963, 318	577, 914
Mullet	23, 744	2, 312	6, 459	775	47, 041	4, 930	82, 739	8, 548
Perch	5, 768	303	312	24	978	47	84, 411	7, 176
Pilchard or sardine	7, 116, 560	49, 027					171, 735, 564	958, 122
Pompano	232	81	1, 286	134	25, 501	2, 731	27, 879	3, 356
Rock bass	157, 736	8, 975	7, 489	422	42, 837	3, 411	625, 871	44, 132
Rockfishes	1, 223, 036	70, 149			4, 938	374	3, 028, 121	170, 405
Sablefish							6, 673	541
Salmon							5	1
Sculpin	35, 988	3, 652					97, 083	9, 751
Sea bass:								
Black	138. 766	6, 617	11, 157	854	165, 686	7, 882	381, 705	19, 196
White or squeteague	171, 493	21, 489	130, 321	23, 528	345, 014	39, 494	1, 218, 929	156, 604
Sheepshead	34, 849	1, 294	188	11			372, 677	15, 781
Skates	2, 734	52					28, 519	589
Skipjack or striped tuna	2, 975, 313	111, 634	5, 216, 081	177, 579	6, 335, 891	224, 720	15, 813, 510	562, 156
Smelt	23, 637	1, 638	1, 167	62	54	3	568, 350	31, 839
Stingray	3, 296	16					3, 296	16
Swordfish	322, 196	37, 649					426, 001	50, 903
Tuna:								
Bluefin	2, 108, 381	133, 471					13, 700, 870	823, 401
Yellowfin	5, 264	329	15, 397, 232	758, 700	16, 771, 348	1, 009, 582	32, 251, 246	1, 773, 788
Whitefish	91, 788	4, 562	4, 530	288	22, 154	1, 154	222, 192	14, 371
Yellowtail	1, 004, 809	47, 451	521, 370	37, 638	865, 107	38, 598	2, 683, 514	138, 978
Other fish			5, 162	477	9, 496	550	139, 081	6, 261
Total	19, 892, 351	640, 587	23, 730, 521	1, 247, 868	25, 314, 354	1, 415, 729	288, 813, 751	6, 195, 754
SHELLFISH, ETC.								
Crabs							270	10
Sea crawfish or spiny lobster	131, 825	22, 971	350	32	720, 464	114, 518	1, 076, 614	190, 469
Abalone							10, 808	2, 958
Clams:								
Pismo							30, 763	9, 340
Soft							98	46
Octopus							50	14
Turtles					5, 594	450	5, 594	450
Total	131, 825	22, 971	350	32	726, 058	114, 968	1, 124. 197	203, 287
Grand total	20, 024, 176	663, 558	23, 730, 871	1, 247, 900	26, 040, 412	1, 530, 697	289, 937, 948	6, 399, 041

Fisheries of California, 1928—Continued

CATCH: BY WATERS

Species	Off California		Off Latin America	
	Pounds	*Value*	*Pounds*	*Value*
FISH				
Albacore	283, 321	$42, 324		
Anchovies	357, 470	4, 016		
Barracuda	4, 385, 214	240, 971	2, 067, 242	$264, 867
Bonito	1, 317, 963	40, 644	770, 370	27, 333
Carp	157, 283	2, 501		
Catfish	458, 392	63, 569		
Cod, dry salted [1]	2, 596, 670	146, 634		
Cod, tongues [1]	8, 000	1, 200		
Eels	227	5		
Flounders:				
"California halibut"	932, 289	125, 148	255, 362	36, 626
"Sole"	10, 280, 419	471, 519		
Other	1, 517, 098	79, 432		
Grayfish	623, 816	13, 275		
Hake	108, 648	2, 173		
Halibut	375, 746	39, 757		
Hardhead	61, 699	6, 922		
Herring	1, 139, 682	11, 814		
Horse mackerel	538, 446	18, 082	1, 906	116
Kingfish	441, 758	12, 087		
"Lingcod"	849, 056	32, 560		
Mackerel	35, 251, 298	616, 630	11, 196	687
Mullet	29, 239	2, 843	53, 500	5, 705
Perch	235, 644	12, 463	1, 290	71
Pilchard or sardine	420, 269, 665	2, 323, 921		
Pompano	3, 295	1, 568	26, 787	2, 865
Rock bass	575, 545	40, 299	50, 326	3, 833
Rockfishes	6, 415, 049	309, 526	4, 938	374
Sablefish	916, 955	37, 848		
Salmon	4, 478, 566	480, 711		
Sculpin	99, 711	10, 047		
Sea bass:				
Black	204, 862	10, 460	176, 843	8, 736
White or squeteague	805, 403	102, 079	475, 335	63, 022
Shad	2, 088, 878	69, 281		
Sheepshead	372, 489	15, 770	188	11
Skates	458, 926	9, 230		
Skipjack or striped tuna	4, 262, 732	159, 917	11, 551, 972	402, 299
Smelt	915, 498	58, 469	1, 221	65
Splittail	10, 740	616		
Squawfish	3, 780	221		
Striped bass	484, 113	74, 172		
Stingray	3, 296	16		
Suckers	1, 029	35		
Swordfish	426, 001	50, 903		
Tomcod	11, 923	359		
Tuna:				
Bluefin	13, 700, 870	823, 401		
Yellowfin	82, 666	5, 506	32, 168, 580	1, 768, 282
Whitebait	135, 186	8, 854		
Whitefish	195, 508	12, 929	26, 684	1, 442
Yellowtail	1, 297, 037	62, 742	1, 386, 477	76, 236
Other fish	181, 735	6, 830	14, 658	1, 027
Total	520, 350, 836	6, 662, 279	49, 044, 875	2, 663, 597
SHELLFISH, ETC.				
Crabs	3, 574, 734	290, 452		
Sea crawfish or spiny lobster	355, 800	75, 919	720, 814	114, 550
Shrimp	2, 280, 871	38, 269		
Abalone	420, 783	84, 953		
Clams:				
Cockle	3, 020	2, 250		
Pismo	31, 302	9, 502		
Soft	24, 855	10, 131		
Mixed	6, 602	3, 331		
Mussels	161	40		
Octopus	6, 434	737		
Oysters:				
Eastern, market	72, 630	30, 699		
Native, market	4, 028	1, 726		
Squid	1, 351, 992	40, 740		
Terrapin	168	20		
Turtles			5, 594	450
Total	8, 133, 380	588, 769	726, 408	115, 000
WHALE PRODUCT				
Whale oil	4, 880, 639	296, 000		
Grand total	533, 364, 855	7, 547, 048	49, 771, 283	2, 778, 597

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[1] The catch of cod was made in Alaska waters.

NORTHERN DISTRICT

The northern district is comprised of Del Norte, Humboldt, Mendocino, Sonoma, and Lake Counties. The catch in this district amounted to 4,580,841 pounds, valued at $381,794. Considered according to value the more important species comprising this catch were salmon, 2,774,315 pounds, valued at $277,837; halibut, 350,823 pounds, valued at $37,026; sablefish, 385,185 pounds, valued at $15,126; and catfish, 73,917 pounds, valued at $10,791.

Operating units.—The catch of fishery products in this district was taken by 548 fishermen, 15 motor vessels, 383 motor and other small boats, and 7 major types of gear. The combined capacity of the vessels amounted to 153 net tons.

Catch by gear.—Three types of gear accounted for 93 per cent of the fishery products taken in this district during 1928. In the order of their importance they were lines, which accounted for 72 per cent of the catch; gill nets, 14 per cent; and paranzella nets, 7 per cent. The catch by gill nets consisted principally of salmon; that by lines chiefly salmon, halibut, and sablefish; and that by paranzella nets mainly flounders.

Fisheries of the northern district of California, 1928

OPERATING UNITS: BY GEAR

Items	Haul seines	Gill nets		Troll lines	Set and hand lines
		Drift, salmon	Other		
	Number	*Number*	*Number*	*Number*	*Number*
Fishermen:					
On vessels				28	29
On boats and shore	9	301	25	155	94
Total	9	301	25	183	123
Vessels, motor				14	8
Net tonnage				132	91
Boats:					
Motor	2		13	141	69
Other	2	194	9		
Apparatus:					
Number	2	198	22	706	199
Length, yards	400				
Square yards		129, 200	10, 860		
Hooks				3, 298	23, 750

Items	Dip nets	Paranzella nets	Crab traps	Shovels	Total, exclusive of duplication
	Number	*Number*	*Number*	*Number*	*Number*
Fishermen:					
On vessels		7			4
On boats and shore	29		29	6	50
Total	29	7	29	6	54
Vessels, motor		2			1
Net tonnage		14			15
Boats:					
Motor			19		14
Other	29		7	6	23
Apparatus:					
Number	29	1	476	6	
Yards at mouth		17			

Fisheries of the northern district of California, 1928—Continued

CATCH: BY GEAR

Fish	Haul seines		Gill nets		Troll lines	
	Pounds	*Value*	*Pounds*	*Value*	*Pounds*	*Value*
Carp	74, 894	$262				
Flounders, other than "sole"			12, 220	$603		
Halibut					10, 988	$956
Hardhead	11, 090	39				
Herring			61, 442	1, 009		
"Lingcod"					23, 369	480
Perch			36, 174	1, 264		
Pilchard or sardine			87	4		
Rockfishes					2, 713	59
Salmon	12, 394	876	467, 411	46, 698	2, 294, 510	230, 263
Smelt			63, 161	3, 876		
Total	98, 378	1, 177	640, 495	53, 454	2, 331, 580	231, 758

Fish	Set and hand lines		Dip nets		Paranzella nets	
	Pounds	*Value*	*Pounds*	*Value*	*Pounds*	*Value*
Catfish	73, 917	$10, 791				
Flounders:						
"Sole"	4, 011	86			218, 030	$8, 721
Other					80, 970	4, 049
Grayfish					260	5
Halibut	339, 799	36, 066			36	4
"Lingcod"	66, 503	2, 108			18, 460	614
Perch			5, 291	$208		
Rockfishes	84, 411	2, 098			20, 140	504
Sablefish	385, 185	15, 126				
Skates					2, 340	47
Whitebait			116, 716	7, 256		
Other fish	4, 806	96			1, 950	39
Total	958, 632	66, 371	122, 007	7, 464	342, 186	13, 983

Shellfish	Traps		Shovels	
	Pounds	*Value*	*Pounds*	*Value*
Crabs	86, 068	$7, 174		
Clams:				
Cockle			34	$11
Soft			95	24
Mixed			1, 346	378
Total	86, 068	7, 174	1, 475	413

SAN FRANCISCO DISTRICT

The San Francisco district is comprised of Marin, Solano, Yolo, Sacramento, San Joaquin, Alameda, Contra Costa, San Francisco, and San Mateo Counties. The catch in this district amounted to 57,628,317 pounds, valued at $1,842,761. Considered according to value the more important species comprising this catch were flounders, 9,109,738 pounds, valued at $415,596; crabs, 3,014,760 pounds, valued at $251,230; salmon, 1,369,592 pounds, valued at $161,900; dry-salted cod, 2,596,670 pounds, valued at $146,634; and pilchard or sardine, 26,965,736 pounds, valued at $144,837.

Operating units.—The catch of fishery products in the San Francisco district during 1928 was taken by 1,310 fishermen, 4 steam vessels, 26 motor vessels, 4 sailing vessels, 695 motor and other small boats, and 12 major types of gear. The combined capacity of the vessels amounted to 2,246 net tons.

Catch by gear.—Five types of gear accounted for 89 per cent of the fishery products taken in this district during 1928. Listed in order of their importance they were lampara nets, which accounted for 48 per cent of the catch; paranzella nets, 19 per cent; harpoons, 8 per cent; and lines and gill nets, each, 7 per cent. The catch by lampara nets was chiefly pilchard or sardine, that by paranzella nets principally flounders, that by harpoons exclusively whales, that by gill nets chiefly striped bass, salmon and shad; and that by lines largely cod taken in Alaska waters.

Fisheries of the San Francisco district of California, 1928

OPERATING UNITS: BY GEAR

Items	Haul seines	Gill nets					Troll lines	Set and hand lines	Fyke nets
		Drift, salmon	Sea bass	Shad	Striped bass	Other			
	Number	*Number*	*Number*	*Number*	*Number*	*Number*	*Number*	*Number*	*Number*
Fishermen:									
On vessels							4	144	
On boats and shore	35	426	30	378	269	36	252	45	95
Total	35	426	30	378	269	36	256	189	95
Vessels:									
Motor							2	2	
Net tonnage							16	40	
Sail								4	
Net tonnage								1,598	
Total vessels							2	6	
Total net tonnage							16	1,638	
Boats:									
Motor	8	228	17	234	166		236	21	37
Other		5		7	7				43
Apparatus:									
Number	8	233	17	241	173	29	982	446	1,248
Length, yards	960								
Square yards		573,646	25,646	576,954	364,338	24,640			
Hooks							4,902	36,168	

Items	Bag nets	Lampara nets, sardine	Paranzella nets	Beam trawls	Crab traps	Harpoons, whale	Tongs	Shovels and rakes	Total, exclusive of duplication
	Number	*Number*	*Number*	*Number*	*Number*	*Number*	*Number*	*Number*	*Number*
Fishermen:									
On vessels	15		85			44			285
On boats and shore	20	75		28	204		6	18	1,025
Total	35	75	85	28	204	44	6	18	1,310
Vessels:									
Steam						4			4
Net tonnage						241			241
Motor	3		22						26
Net tonnage	18		359						407
Sail									4
Net tonnage									1,598
Total vessels	3		22			4			34
Total net tonnage	18		359			241			2,246
Boats:									
Motor	5	16		24	204		2	5	643
Other							6	4	52
Apparatus:									
Number	8	16	11	24	4,080	4	6	18	
Length, yards	4,272	3,776							
Yards at mouth			183	148					

Fisheries of the San Francisco district of California, 1928—Continued

CATCH: BY GEAR

Species	Haul seines		Gill nets		Troll lines		Set and hand lines	
FISH	*Pounds*	*Value*	*Pounds*	*Value*	*Pounds*	*Value*	*Pounds*	*Value*
Anchovies	2,229	$22	6,650	$67				
Carp			27,853	477				
Catfish			9,612	1,384				
Cod, dry-salted							2,596,670	$146,634
Cod tongues							8,000	1,200
Eels							5	1
Flounders:								
"Sole"							6,395	320
Other	1,110	49	1,820	55			21	1
Grayfish							9,981	199
Halibut					662	$53	917	110
Herring	89,507	895	430,615	4,306				
Kingfish	133	5	33	1				
"Lingcod"					2,817	56	195,872	6,856
Perch	38,504	1,155	42,232	1,367				
Pilchard or sardine	21,200	212	8,838	88				
Rockfishes					3,245	65	557,094	27,855
Sablefish							236,866	10,659
Salmon			556,708	72,483	812,884	89,417		
Sea bass, white or squeteague	244	30	34,998	5,244				
Shad			2,088,878	69,281				
Smelt	11,081	887	98,979	8,346				
Squawfish			1,254	52				
Striped bass			484,113	74,172				
Suckers			72	2				
Tomcod	9,734	292						
Whitebait	5,916	503	1,271	108				
Other fish			1,234	25			91	2
Total	179,658	4,050	3,795,160	237,458	819,608	89,591	3,611,912	193,837
SHELLFISH, ETC.								
Shrimp	2,309	46						
Octopus			2,499	250				
Total	2,309	46	2,499	250				
Grand total	181,967	4,096	3,797,659	237,708	819,608	89,591	3,611,912	193,837

Species	Fyke nets		Bag nets		Lampara nets		Paranzella nets	
FISH	*Pounds*	*Value*	*Pounds*	*Value*	*Pounds*	*Value*	*Pounds*	*Value*
Anchovies					116,636	$1,166		
Carp	54,536	$1,762						
Catfish	374,863	51,394						
Flounders:								
"Sole"							7,952,305	$357,854
Other					1,907	74	1,146,180	57,243
Grayfish							390,497	7,810
Hake							76,047	1,521
Halibut							23,344	2,568
Hardhead	50,609	6,883						
Herring					534,456	5,345		
Kingfish					1,753	71	24,866	995
"Lingcod"							326,028	11,411
Mackerel					2,127	64	135	4
Perch					5,370	161	890	40
Pilchard or sardine					26,934,893	144,529	805	8
Rockfishes							437,919	19,707
Sablefish							105,163	4,732
Sea bass, white or squeteague					673	114		
Skates							315,517	6,310
Smelt					3,496	279	150	12
Splittail	10,740	616						
Squawfish	2,526	169						
Suckers	957	33						
Tomcod					85	3	1,979	59
Whitebait					7,434	630		
Other fish	50	3					28,639	859
Total	494,281	60,860			27,608,830	152,436	10,830,464	471,133
SHELLFISH, ETC.								
Crabs							9,022	752
Shrimp			348,724	$5,850				
Octopus							54	5
Total			348,724	5,850			9,076	757
Grand total	494,281	60,860	348,724	5,850	27,608,830	152,436	10,839,540	471,890

Fisheries of the San Francisco district of California, 1928—Continued

CATCH: BY GEAR—Continued

Species	Beam trawls		Traps		Harpoons	
	Pounds	*Value*	*Pounds*	*Value*	*Pounds*	*Value*
SHELLFISH, ETC.						
Crabs			3,005,738	$250,478		
Shrimp	1,929,838	$32,373				
Total	1,929,838	32,373	3,005,738	250,478		
WHALE PRODUCT						
Whale oil					4,880,639	$296,000
Grand total	1,929,838	32,373	3,005,738	250,478	4,880,639	296,000

Species	Tongs		Rakes		Shovels		By hand	
	Pounds	*Value*	*Pounds*	*Value*	*Pounds*	*Value*	*Pounds*	*Value*
SHELLFISH, ETC.								
Clams:								
Cockle					2,986	$2,239		
Soft					24,642	10,054		
Mixed					5,103	2,892		
Mussels			24	$12				
Oysters:								
Eastern, market	72,630	$30,699						
Native, market	4,028	1,726						
Terrapin							168	$20
Total	76,658	32,425	24	12	32,731	15,185	168	20

MONTEREY DISTRICT

The Monterey district is comprised of Monterey and Santa Cruz Counties. The catch in this district amounted to 230,989,032 pounds, valued at $1,702,049. The most important product contributing to this catch was pilchard or sardine, the catch of which amounted to 221,568,278 pounds, valued at $1,220,958. Other important species were flounders, 2,087,801 pounds, valued at $105,749; rockfishes, 2,286,344 pounds, valued at $89,207; and abalone, 409,975 pounds, valued at $81,995.

Operating units.—The catch of fishery products in the Monterey district during 1928 was taken by 1,120 fishermen, 10 motor vessels, 289 motor and other small boats, and 9 major types of gear. The combined capacity of the vessels amounted to 110 net tons.

Catch by gear.—Three types of gear accounted for 98 per cent of the fishery products taken in this district during 1928. Listed in order of their importance they were lampara nets, which accounted for 92 per cent of the catch; purse seines, 5 per cent; and lines, 1 per cent. The catch by lampara nets was principally pilchard or sardine, that by purse seines, exclusively pilchard or sardine, and that by lines chiefly rockfishes, mackerel, and salmon.

Fisheries of the Monterey district of California, 1928

OPERATING UNITS: BY GEAR

Items	Purse seines, sardine	Gill nets			Troll lines	Set and hand lines	Lampara nets	
		Crab	Sea bass	Other			Sardine	Squid
	Number	*Number*	*Number*	*Number*	*Number*	*Number*	*Number*	*Number*
Fishermen:								
On vessels	26				4	4	54	6
On boats and shore		45	34	82	223	161	669	237
Total	26	45	34	82	227	165	723	243
Vessels, motor	3				2	2	5	1
Net tonnage	60				11	12	38	11
Boats:								
Motor		24	20	64	201	136	55	40
Other				6		10		
Apparatus:								
Number	3	24	20	70	535	990	60	40
Length, yards	930						20, 354	10, 120
Square yards		57, 810	30, 861	47, 320				
Hooks					2, 666	181. 720		

Items	Paranzella nets	Traps		Rakes	Shovels	Abalone outfits	Total, exclusive of duplication
		Crab	Octopus				
	Number	*Number*	*Number*	*Number*	*Number*	*Number*	*Number*
Fishermen:							
On vessels						5	90
On boats and shore	2	3	5	2	5	50	1, 030
Total	2	3	5	2	5	55	1, 120
Vessels, motor						1	10
Net tonnage						6	110
Boats:							
Motor	1	3	5			10	276
Other							13
Apparatus:							
Number	1	35	22	2	5	11	
Yards at mouth	17						

CATCH: BY GEAR

Species	Purse seines		Gill nets		Troll lines		Set and hand lines	
FISH	*Pounds*	*Value*	*Pounds*	*Value*	*Pounds*	*Value*	*Pounds*	*Value*
Albacore					180	$27		
Anchovies			636	$14				
Barracuda			86	9	90	10		
Bonito			596	31				
Flounders:								
"California halibut"			440	52	76	10	5, 984	$790
"Sole"			1, 435	72	64	3	20, 211	1, 110
Other					173	10	5, 679	275
Grayfish							200	1
Hake							80	2
Herring			125	2				
Horse mackerel			1, 579	129	361	20	1, 420	82
Kingfish			48, 622	2, 698			1, 805	103
"Lingcod"					4, 233	218	140, 283	7, 603
Mackerel			218	7	257, 873	7, 888	756, 288	23, 159
Perch			12, 586	625				
Pilchard or sardine	11, 835, 755	$65, 097	2, 261	45				
Rockfishes					11, 846	431	2, 178, 869	84, 976
Sablefish							175, 584	6, 528
Salmon					334, 654	40, 973		
Sculpin							2, 628	296
Sea bass, white or squeteague			22, 553	2, 697			105	8
Skates							5, 222	138
Skipjack or striped tuna			1, 194	60				

Fisheries of the Monterey district of California, 1928

CATCH: BY GEAR—Continued

Species	Purse seines		Gill nets		Troll lines		Set and hand lines	
	Pounds	*Value*	*Pounds*	*Value*	*Pounds*	*Value*	*Pounds*	*Value*
FISH—continued								
Smelt			144, 537	$11, 214			259	$21
Whitebait			1, 147	111				
Other fish			3, 215	80	780	$23	8, 080	181
Total	11, 835, 755	$65, 097	241, 230	17, 846	610, 330	49, 613	3, 302, 697	125, 273
SHELLFISH, ETC.								
Crabs			470, 424	31, 802				
Octopus							821	96
Squid			197	10				
Total			470, 621	31, 812			821	96
Grand total	11, 835, 755	65, 097	711, 851	49, 658	610, 330	49, 613	3, 303, 518	125, 369

Species	Lampara nets		Paranzella nets		Traps		Shovels and rakes		Abalone outfits	
	Pounds	*Value*	*Pounds*	*Value*	*Pounds*	*Value*	*Pounds*	*Value*	*Pounds*	*Value*
FISH										
Anchovies	174, 850	$1, 958								
Barracuda	808	93								
Bonito	110	7								
Flounders:										
"California halibut"	522	68	14, 645	$1, 757						
"Sole"	339	17	1, 788, 895	89, 445						
Other	103	4	249, 235	12, 136						
Grayfish			81, 040	1, 630						
Hake			32, 521	650						
Herring	440	5								
Horse mackerel	25, 584	864								
Kingfish	21, 641	1, 043	19, 426	971						
"Lingcod"	475	22	69, 970	3, 128						
Mackerel	282, 535	8, 281								
Perch	9, 451	444	2, 025	94						
Pilchard or sardine	209, 730, 262	1, 155, 816								
Pompano	2, 203	1, 077								
Rockfishes	2, 973	94	92, 656	3, 706						
Sablefish			7, 484	262						
Sea bass, white or squeteague	3, 236	404								
Skates			107, 328	2, 146						
Smelt	26, 706	2, 060								
Tomcod			125	5						
Whitebait	2, 702	246								
Other fish	1, 530	80	6, 937	208						
Total	210, 286, 470	1, 172, 583	2, 472, 287	116, 138						
SHELLFISH, ETC.										
Abalone									409, 975	$81, 995
Clams:										
Pismo							539	$162		
Soft							20	7		
Mixed							153	61		
Crabs					3, 192	$236				
Mussels							137	28		
Octopus			322	34	2, 688	338				
Squid	1, 351, 795	40, 730								
Total	1, 351, 795	40, 730	322	34	5, 880	574	849	258	409, 975	81, 99
Grand total	211, 638, 265	1, 213, 313	2, 472, 609	116, 172	5, 880	574	849	258	409, 975	81, 99

SOUTHERN DISTRICT

The combined catch of the San Pedro and San Diego divisions, which comprise the southern district, amounted to 289,937,948 pounds, valued at $6,399,041. This includes the catch off the coast of California and that off the coast of Latin America. Considered according to value the more important species contributing to this catch were yellowfin tuna, 32,251,246 pounds, valued at $1,773,788; pilchard or sardine, 171,735,564 pounds, valued at $958,122; bluefin tuna, 13,700,870 pounds, valued at $823,401; and mackerel, 33,963,318 pounds, valued at $577,914.

The operating units and catch of the principal species are discussed for each division individually in the following paragraphs.

SAN PEDRO DIVISION

The San Pedro division is comprised of San Luis Obispo, Santa Barbara, Ventura, Los Angeles, and Orange Counties.

Operating units.—The catch of fishery products in the San Pedro division was taken by 2,902 fishermen, 257 motor vessels, 551 motor and other small boats, and 10 major types of gear. The combined capacity of the vessels amounted to 4,889 net tons.

OFF CALIFORNIA

That part of the catch in this division taken off the California coast amounted to 220,142,489 pounds, valued at $2,956,886. Considered according to value the more important species were pilchard or sardine, 164,619,004 pounds, valued at $909,095; bluefin tuna, 11,592,489 pounds, valued at $689,930; and mackerel, 31,244,073 pounds, valued at $533,347.

Catch by gear.—Three types of gear accounted for 99 per cent of the fishery products taken off the California coast and landed in San Pedro division during 1928. In order of their importance they were lampara nets, which accounted for 50 per cent of the catch; purse seines, 44 per cent; and lines, 5 per cent. The catch by lampara nets was principally pilchard or sardine and mackerel; that by purse seines principally pilchard or sardine, bluefin tuna, and mackerel; and that by lines chiefly rockfishes, mackerel, skipjack or striped tuna, and albacore.

OFF LATIN AMERICA

That part of the catch of the San Pedro division taken off the coast of Latin America amounted to 23,730,871 pounds, valued at $1,247,900. Considered according to value the more important species were yellowfin tuna, 15,397,232 pounds, valued at $758,700; barracuda, 1,713,038 pounds, valued at $221,714; and skipjack or striped tuna, 5,216,081 pounds, valued at $171,579.

Catch by gear.—Two types of gear accounted for more than 99½ per cent of the fishery products taken off the coast of Latin America, and landed in the San Pedro division during 1928. Of these, troll lines accounted for 53 per cent and purse seines 47 per cent. The catch by troll lines was principally yellowfish tuna and skipjack or striped tuna and that by purse seines principally yellowfin tuna and barracuda.

Fisheries of the San Pedro division of the southern district of California, 1928

OPERATING UNITS: BY GEAR

Items	Purse seines			Gill nets			Trammel nets	Troll lines
	Barracuda	Sardine	Tuna	Barracuda	Sea bass	Other		
	Number	*Number*	*Number*	*Number*	*Number*	*Number*	*Number*	*Number*
Fishermen:								
On vessels	437	673	595	52	36	14	48	676
On boats and shore				127	84	33	81	435
Total	437	673	595	179	120	47	129	1,111
Vessels, motor	48	71	62	15	10	3	17	127
Net tonnage	1,278	2,080	1,751	98	70	17	121	2,000
Boats:								
Motor				49	34	14	33	290
Other				2	4	5	1	4
Apparatus:								
Number	48	71	62	66	48	26	51	2,693
Length, yards	20,320	27,570	34,133					
Square yards				430,244	259,766	18,798	365,766	
Hooks								2,693

Items	Set and hand lines	Lampara nets, sardine	Paranzella nets	Lobster traps	Harpoons, swordfish	Shovels	Abalone outfits	Total, exclusive of duplication
	Number	*Number*	*Number*	*Number*	*Number*	*Number*	*Number*	*Number*
Fishermen:								
On vessels	122	706	8	28	8			1,877
On boats and shore	451	81	25	167	27	158	7	1,025
Total	573	787	33	195	35	158	7	2,902
Vessels, motor	45	86	2	10	3			257
Net tonnage	368	1,010	22	75	20			4,889
Boats:								
Motor	281	16	8	79	15		5	499
Other	38			10				52
Apparatus:								
Number	1,351	102	5	2,644	24	158	7	
Length, yards		39,830						
Yards at mouth			84					
Hooks	292,978							

CATCH OFF CALIFORNIA: BY GEAR

Species	Purse seines		Gill nets		Trammel nets		Troll lines	
FISH	*Pounds*	*Value*	*Pounds*	*Value*	*Pounds*	*Value*	*Pounds*	*Value*
Albacore	803	$122					258,185	$38,552
Barracuda	1,314,568	66,470	884,910	$61,324			497,381	22,631
Bonito	482,087	16,547	59,997	1,522	130	$4	35,507	799
Flounders:								
"California halibut"	106	15	27	3	496,692	72,967		
"Sole"	147	7			54,637	2,955		
Other			23	1	718	39		
Grayfish	702	18	33,206	954	39,166	1,170	209	6
Herring			570	20				
Horse mackerel	147,869	3,900	29,494	1,328				
Kingfish	1,138	23						
"Lingcod"					14	1		
Mackerel	3,010,800	41,887	199,301	3,632	283	8	839,990	11,980
Mullet			5,495	531				
Perch	1,887	175	5,826	454	1,297	82		
Pilchard or sardine	80,750,501	444,128						
Pompano			8	4				
Rock bass	12,441	829	277	14	473	24	85,408	5,266
Rockfishes	2,101	93	130	7	3,021	169		
Salmon							5	1
Sculpin					240	14		

Fisheries of the San Pedro division of the southern district of California, 1928—Con.

CATCH OFF CALIFORNIA: BY GEAR—Continued

Species	Purse seines		Gill nets		Trammel nets		Troll lines	
FISH—continued	*Pounds*	*Value*	*Pounds*	*Value*	*Pounds*	*Value*	*Pounds*	*Value*
Sea bass:								
Black	1,372	$75	4,804	$302	2,073	$138		
White or squeteague	31,743	4,948	360,601	41,830	1,718	301		
Sheepshead	873	40			1,990	94		
Skates					23,038	479		
Skipjack or striped tuna							1,286,225	$48,223
Smelt	2,340	106	106,313	6,161				
Swordfish							2,398	105
Tuna:								
Bluefin	11,004,691	642,916			204	15	287,403	27,027
Yellowfin	113	7					75,084	4,916
Whitefish	685	40			380	21		
Yellowtail	102,883	7,046	7,367	494	124	13	147,514	5,142
Other fish	926	33	48,046	1,408	5,142	155	148	12
Total	96,870,776	1,229,425	1,746,395	119,989	631,340	78,649	3,515,457	167,660
SHELLFISH, ETC.								
Sea crawfish or spiny lobster					7,800	1,778		
Grand total	96,870,776	1,229,425	1,746,395	119,989	639,140	80,427	3,515,457	167,660

Species	Set and hand lines		Lampara nets		Paranzella nets		Traps	
FISH	*Pounds*	*Value*	*Pounds*	*Value*	*Pounds*	*Value*	*Pounds*	*Value*
Anchovies			55,739	$775				
Barracuda			836,880	37,994				
Bonito	5,195	$182	53,728	1,483				
Eels	222	4						
Flounders:								
"California halibut"	34,269	4,740	713	107	244,877	$26,419		
"Sole"	6,981	468	95	6	218,191	9,382		
Other	16,939	4,893						
Grayfish	48,745	1,147	6,319	128			32	$1
Horse mackerel	2,437	80	329,702	11,679				
Kingfish	17,710	354	298,480	5,650			2,033	44
"Lingcod"	1,032	63						
Mackerel	4,509,827	97,593	22,683,872	375,247				
Perch	4,072	250	59,624	5,434	483	29	4,164	378
Pilchard or sardine			83,868,503	464,967				
Pompano			852	406				
Rock bass	92,211	7,893	69,887	4,205			157,112	13,093
Rockfishes	1,792,336	99,432	1,815	143			744	38
Sablefish	6,673	541						
Sculpin	60,855	6,085						
Sea bass:								
Black	51,570	2,946	6,057	373	220	9		
White or squeteague	23,392	2,450	154,647	22,564				
Sheepshead	72,674	3,223	4,290	206			257,813	10,913
Skates	2,747	58						
Smelt	5,399	311	429,440	23,558				
Tuna:								
Bluefin			300,191	19,972				
Yellowfin			2,205	254				
Whitefish	100,835	8,188	456	29			1,364	89
Yellowtail	3,132	141	31,208	2,455				
Other fish	63,705	3,198	5,297	365			1,159	63
Total	6,922,958	244,240	109,200,000	978,000	463,771	35,839	424,421	24,619
SHELLFISH, ETC.								
Crabs							270	10
Octopus	50	14						
Sea crawfish or spiny lobster					860	140	215,315	51,030
Total	50	14			860	140	215,585	51,040
Grand total	6,923,008	244,254	109,200,000	978,000	464,631	35,979	640,006	75,659

Fisheries of the San Pedro division of the southern district of California, 1928—Con.

CATCH OFF CALIFORNIA: BY GEAR—Continued

Species	Harpoons		Shovels		Abalone outfits	
FISH	*Pounds*	*Value*	*Pounds*	*Value*	*Pounds*	*Value*
Swordfish	101,407	$13,149				
Total	101,407	13,149				
SHELLFISH, ETC.						
Abalone					10,808	$2,958
Clams:						
Pismo			30,763	$9,340		
Soft			98	46		
Total			30,861	9,386	10,808	2,958
Grand total	101,407	13,149	30,861	9,386	10,808	2,958

CATCH OFF LATIN AMERICA: BY GEAR

Species	Purse seines		Gill nets		Trammel nets	
FISH	*Pounds*	*Value*	*Pounds*	*Value*	*Pounds*	*Value*
Barracuda	1,712,407	$221,640	262	$34		
Bonito	683,331	24,406				
Flounders, "California halibut"	798	142			380	$56
Horse mackerel	1,906	116				
Perch	312	24				
Rock bass	851	83				
Sea bass:						
Black	8,226	663				
White or squeteague	119,529	21,904	8,813	1,324		
Sheepshead	188	11				
Skipjack or striped tuna	172,202	4,018				
Smelt	1,167	62				
Tuna, yellowfin	7,908,213	330,280				
Whitefish	1,745	115				
Yellowtail	481,421	35,301				
Other fish	947	67				
Total	11,093,243	638,832	9,075	1,358	380	56

Species	Troll lines		Set and hand lines		Lampara nets		Traps	
FISH	*Pounds*	*Value*	*Pounds*	*Value*	*Pounds*	*Value*	*Pounds*	*Value*
Barracuda	369	$40						
Bonito	28,314	942						
Mullet					6,459	$775		
Pompano					1,286	134		
Rock bass			6,638	$339				
Sea bass:								
Black	134	9	1,817	104	980	78		
White or squeteague			40	7	1,939	293		
Skipjack or striped tuna	5,043,879	173,561						
Tuna, yellowfin	7,489,019	428,420						
Whitefish			2,785	173				
Yellowtail	39,699	2,312			250	25		
Other fish					4,215	410		
Total	12,601,414	605,284	11,280	623	15,129	1,715		
SHELLFISH, ETC.								
Sea crawfish or spiny lobster							350	$32
Grand total	12,601,414	605,284	11,280	623	15,129	1,715	350	32

SAN DIEGO DIVISION

The San Diego division is comprised of San Diego and Imperial Counties.

Operating units.—The catch of fishery products in the San Diego division was taken by 964 fishermen, 119 motor vessels, 169 motor and other small boats, and 6 major types of gear. The combined capacity of the vessels amounted to 2,883 net tons.

OFF CALIFORNIA

That part of the catch taken off the California coast of the San Diego division amounted to 20,024,176 pounds, valued at $663,558. Considered according to value the more important species were bluefin tuna, 2,108,381 pounds, valued at $133,471; skipjack or striped tuna, 2,975,313 pounds, valued at $111,634; and rockfishes, 1,233,036 pounds, valued at $70,149.

Catch by gear.—Three types of gear accounted for 94 per cent of the fishery products taken off the coast of California and landed in the San Diego division during 1928. In the order of their importance they were lampara nets, which accounted for 44 per cent of the catch; lines, 40 per cent; and purse seines, 10 per cent. The catch by lampara nets was made up principally of pilchard or sardine, mackerel, and bonito; that by lines was chiefly skipjack or striped tuna, mackerel, rockfishes, and yellowtail; and that by purse seines was almost exclusively bluefin tuna.

OFF LATIN AMERICA

That part of the catch of the San Diego division taken off the Latin American coast amounted to 26,040,412 pounds, valued at $1,530,697. Considered according to value the more important species were yellowfin tuna, 16,771,348 pounds, valued at $1,009,582; skipjack or striped tuna, 6,335,891 pounds, valued at $224,720; and sea crawfish or spiny lobsters, 720,464 pounds, valued at $114,518.

Catch by gear.—Two types of gear accounted for 95 per cent of the catch of fishery products taken off the coast of Latin America and landed in the San Diego division. Lines accounted for 90 per cent of the catch and purse seines, 5 per cent. The catch by lines consisted principally of yellowfin tuna and skipjack or striped tuna and that by purse seines principally yellowfin tuna.

Fisheries of the San Diego division of the southern district of California, 1928

OPERATING UNITS: BY GEAR

Items	Gill nets			Trammel nets	Troll lines	Set and hand lines
	Barracuda	Sea bass	Other			
	Number	*Number*	*Number*	*Number*	*Number*	*Number*
Fishermen:						
On vessels	24	15		19	600	163
On boats and shore	49	43	16	40	171	153
Total	73	58	16	59	771	316
Vessels, motor	7	4		5	105	39
Net tonnage	56	32		44	2,719	431
Boats:						
Motor	19	18	12	15	110	90
Other			4		1	4
Apparatus:						
Number	26	22	14	20	1,598	719
Square yards	145,647	102,870	10,500	248,770		
Hooks					1,598	142,969

Fisheries of the San Diego division of the southern district of California, 1928—Continued

OPERATING UNITS: BY GEAR—Continued

Items	Lampara nets, sardine	Lobster traps	Harpoons		Total, exclusive of duplication
			Swordfish	Turtles	
Fishermen:	*Number*	*Number*	*Number*	*Number*	*Number*
On vessels	200	32	41	6	669
On boats and shore	47	81	39	2	295
Total	247	113	80	8	964
Vessels, motor	35	10	11	1	119
Net tonnage	331	79	122	15	2,883
Boats:					
Motor	9	50	21	1	157
Other		4			12
Apparatus:					
Number	44	2,190	47	4	
Length, yards	12,858				

CATCH OFF CALIFORNIA: BY GEAR

Species	Purse seines		Gill nets		Trammel nets		Troll lines	
FISH	*Pounds*	*Value*	*Pounds*	*Value*	*Pounds*	*Value*	*Pounds*	*Value*
Albacore	58	$9					24,095	$3,614
Barracuda	20,017	1,251	202,609	$13,266			627,865	37,923
Bonito	18,707	517	45,895	1,313			252,047	7,337
Flounders:								
"California halibut"					129,516	$18,109		
Herring			22,527	232				
Mackerel	200	8	82,433	1,557			33,085	553
Mullet			23,744	2,312				
Perch			2,611	143				
Rock bass	1,077	70	675	28			5,772	239
Rockfishes					586	35		
Sea bass:								
Black			1,012	49	2,758	133		
White, or squeteague	60	10	111,876	13,548	46	8	4,098	483
Sheepshead			60	3				
Skates					1,576	29		
Skipjack or striped tuna							2,975,313	111,634
Smelt			16,378	1,189				
Tuna:								
Bluefin	2,055,801	130,167					29,039	1,774
Yellowfin							5,264	329
Yellowtail	746	60	10,144	309			991,713	46,866
Total	2,096,666	132,092	519,964	33,949	134,482	18,314	4,948,291	210,752

Species	Set and hand lines		Lampara nets		Traps		Harpoons	
FISH	*Pounds*	*Value*	*Pounds*	*Value*	*Pounds*	*Value*	*Pounds*	*Value*
Anchovies			730	$14				
Bonito	8,353	$259	355,611	10,643				
Flounders:								
"California halibut"	4,422	111						
"Sole"	8,683	1,073						
Grayfish	13,459	206						
Kingfish	3,421	108	697	21				
Mackerel	1,315,954	23,570	1,276,377	18,192				
Perch	385	20	2,531	126	241	$14		
Pilchard or sardine			7,116,560	49,027				
Pompano	194	68	38	13				
Rock bass	71,395	3,694	53,470	2,817	25,347	2,127		
Rockfishes	1,222,450	70,114						
Sculpin	35,988	3,652						
Sea bass:								
Black	134,996	6,435						
White, or squeteague	28,146	4,136	27,267	3,304				

Fisheries of the San Diego division of the southern district of California, 1928—Continued

CATCH OFF CALIFORNIA: BY GEAR—Continued

Species	Set and hand lines		Lampara nets		Traps		Harpoons	
	Pounds	*Value*	*Pounds*	*Vales*	*Pounds*	*Value*	*Pounds*	*Value*
FISH—continued								
Sheepshead	16, 163	$633	901	$38	17, 725	$620		
Skates	1, 158	23						
Smelt	554	23	6, 705	426				
Stingray	3, 296	16						
Swordfish							322, 196	$37, 649
Tuna, bluefin			23, 541	1, 530				
Whitefish	91, 788	4, 562						
Yellowtail	1, 571	193	635	23				
Total	2, 962, 376	118, 896	8, 865, 063	86, 174	43, 313	2, 761	322, 196	37, 649
SHELLFISH, ETC.								
Sea crawfish or spiny lobster					131, 825	22, 971		
Grand total	2, 962, 376	118, 896	8, 865, 063	86, 174	175, 138	25, 732	322, 196	37, 649

NOTE.—The catch by purse seines was made by fishermen from the San Pedro division.

CATCH OFF LATIN AMERICA: BY GEAR

Species	Purse seines		Gill nets		Trammel nets		Troll lines	
	Pounds	*Value*	*Pounds*	*Value*	*Pounds*	*Value*	*Pounds*	*Value*
FISH								
Barracuda	64, 884	$7, 432	47, 869	$6. 561			241, 451	$29, 160
Bonito			2, 325	99			52, 403	1, 794
Flounders, "California halibut"					254, 184	$36, 428		
Mackerel			42	1				
Mullet	47, 041	4, 930						
Rock bass	115	11	217	9			4, 851	406
Sea bass:								
Black	650	27	12, 980	691	15, 806	808		
White or squeteague	740	63	286, 096	33, 711			958	71
Skipjack or striped tuna	55, 953	1, 444					6. 279, 938	223, 276
Tuna, yellowfin	1, 072, 457	41, 075					15, 698, 891	968, 507
Whitefish	765	31						
Yellowtail	9, 553	734	4, 692	166			780. 571	32, 905
Other fish			150	5				
Total	1. 252, 158	55, 747	354, 371	41, 243	269, 990	37, 236	23, 059, 063	1, 256, 119

Species	Set and hand lines		Lampara nets		Traps		Harpoons	
	Pounds	*Value*	*Pounds*	*Value*	*Pounds*	*Value*	*Pounds*	*Value*
FISH								
Bonito			3, 997	$92				
Mackerel	10, 343	$621	811	65				
Perch			978	47				
Pompano			25, 501	2, 731				
Rock bass	29, 144	2, 385	8, 510	600				
Rockfishes	4, 938	374						
Sea bass:								
Black	125, 239	5, 806	11, 011	550				
White or squeteague	46, 065	4, 048	11, 155	1, 601				
Smelt			54	3				
Whitefish	21, 389	1, 123						
Yellowtail			70, 291	4, 793				
Other fish			9, 346	545				
Total	237, 118	14, 357	141, 654	11, 027				
SHELLFISH, ETC.								
Sea crawfish, or spiny lobster					720, 464	$114, 518		
Turtles							5, 594	$450
Grand total	237, 118	14, 357	141, 654	11, 027	720, 464	114, 518	5, 594	450

INDUSTRIES RELATED TO THE FISHERIES

Transporting trade.—There were 83 persons in 1928 who were engaged in California in transporting the catch of fish. In this trade 1 steam vessel, 18 motor vessels, and 4 sailing vessels, having a combined capacity of 3,256 net tons, were operated.

Wholesale trade.—There were 59 wholesale establishments along the coast of California engaged primarily in the handling of fresh and frozen products. This is 54 per cent of the total number of such establishments in the Pacific coast section. These establishments employed 620 persons who received $1,153,053 in salaries and wages.

Prepared and by-products trade.—There were 67 establishments in California during 1928 engaged primarily in the manufacture of prepared fishery products or by-products. This is 40 per cent of the total number in the Pacific coast section. They employed 6,740 persons who received $3,947,370 in salaries and wages. The products manufactured, consisting principally of canned sardines and tuna and tunalike fishes, were valued at $24,531,740. Detailed statistics of most of the items manufactured may be obtained from Fishery Industries of the United States, 1928, Bureau of Fisheries Document No. 1067.

Industries related to the fisheries of California, 1928

TRANSPORTING

Items	Number
Men on transporting vessels	83
Transporting vessels:	
Steam	1
Net tonnage	331
Motor	18
Net tonnage	1,405
Sail	4
Net tonnage	1,520
Total	23
Net tonnage	3,256

WHOLESALE FISHERY TRADE:

Items	San Francisco and northern district	Monterey district	Southern district		Total
			San Pedro division	San Diego division	
Establishments	16	13	22	8	59
Persons engaged:					
Proprietors and salaried employees	52	26	58	15	151
Wage earners	267	58	102	42	469
Paid to salaried employees	$155,700	$46,800	$148,280	$31,518	$382,298
Paid to wage earners	427,938	74,700	187,240	80,877	770,755
Total salaries and wages	583,638	121,500	335,520	112,395	1,153,053

Industries related to the fisheries of California, 1928—Continued

PREPARED FISHERY PRODUCTS AND BY-PRODUCTS

Items	Number
Establishments	67
Persons engaged:	
Proprietors and salaried employees	618
Wage earners	6, 122
Paid to salaried employees	$1, 180, 453
Paid to wage earners	2 766, 917
Total salaries and wages	3, 947, 370

Products	Quantity	Value
Salted:		
Salmon, mild cured..pounds	1, 552, 800	$465, 830
Other..do	784, 548	62, 025
Smoked..do	232, 822	60, 565
Dried..do	354, 977	37, 733
Canned:		
Sardines..standard cases [1]	2, 771, 534	9, 658, 822
Tuna and tunalike fishes..standard cases	1, 216, 222	8, 374, 030
Mackerel..do	388, 521	1, 621, 595
Miscellaneous [2]		224, 498
By-products:		
Fish meal, scrap, and flour..tons	27, 505	1, 650, 012
Fish and whale oils..gallons	4, 526, 700	1, 939, 259
Miscellaneous [3]		437, 371
Total		24, 531, 740

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[1] A standard case contains forty-eight 1-pound cans of sardines and mackerel, or forty-eight ½-pound cans of tuna and tunalike fishes.

[2] Includes canned squid, abalone, shad, shad roe, salmon, barracuda, barracuda fish cakes, and fish for cat and dog food.

[3] Includes liquid glue, pilchard scales, agar, and kelp products.

HISTORICAL REVIEW

Fourteen general surveys have been made for statistics of the fisheries of the Pacific Coast States during the 41 years from 1888 to 1928. The catch for 1888 amounted to 91,244,000 pounds. Since that time the catch has continued to increase, with the largest catch on record shown for 1928, when 693,484,000 pounds were taken. Comparative statistics for each of the more important species taken are shown in the following tables.

Fisheries of the Pacific Coast States, 1888 to 1928

[Expressed in thousands of pounds and thousands of dollars; that is, 000 omitted. Salt fish, except cod, has been converted to the equivalent of fresh fish]

Year	Washington		Oregon		California		Total	
	Quantity	*Value*	*Quantity*	*Value*	*Quantity*	*Value*	*Quantity*	*Value*
1888	23, 721	811	26, 268	734	41, 255	2, 465	91, 244	4, 010
1892	36, 706	932	28, 826	872	58, 396	3, 023	123, 928	4, 827
1895	59, 158	1, 402	38, 197	1, 284	50, 524	1, 787	147, 879	4, 473
1899	122, 085	2, 871	22, 802	856	77, 985	2, 552	222, 872	6, 279
1904	88, 954	2, 973	27, 534	1, 185	57, 024	2, 523	173, 512	6, 681
1908	100, 352	3, 513	28, 216	1, 356	46, 486	1, 970	175, 054	6, 839
1915	158, 546	5, 321	34, 693	1, 479	88, 981	2, 506	282, 220	9, 306
1922	67, 564	4, 954	22, 134	1, 256	191, 439	6, 774	281, 137	12, 984
1923	111, 261	7, 801	32, 883	3, 504	260, 804	7, 737	404, 948	19, 042
1924	89, 223	7, 123	39, 578	3, 204	344, 894	9, 725	473, 695	20, 052
1925	130, 687	9, 477	40, 008	3, 442	440, 301	11, 662	610, 996	24, 581
1926	89, 637	7, 943	32, 998	3, 068	398, 651	7, 904	521. 286	18, 915
1927	125, 655	9, 146	34, 195	3, 103	491, 347	10, 058	651, 197	22, 307
1928	82, 874	7, 501	27, 474	2, 686	583, 136	10, 326	693, 484	20, 513

Fisheries of Washington, 1888 to 1928

CATCH

[Expressed in thousands of pounds; that is, 000 omitted. Salt fish, except cod, have been reduced to the equivalent of fresh fish]

Species	1888	1892	1895	1899	1904	1908
FISH						
Catfish	----------	----------	----------	106	6	----------
Cod:						
Fresh	239	----------	40	----------	----------	----------
Dry-salted	----------	539	444	930	2, 072	4, 648
Flounders:						
"Sole"	----------	----------	----------	----------	9	190
Other	----------	185	107	28	199	284
Halibut	1, 520	1, 410	1, 844	6, 861	12. 066	30, 072
Herring	----------	617	345	424	532	2, 506
"Lingcod"	----------	359	223	91	144	62
Rockfishes	----------	163	38	72	83	132
Sablefish	----------	15	37	164	334	168
Salmon:						
Blueback or sockeye	16, 454	2, 514	7, 313	42, 071	11, 507	12, 501
Chinook		9, 844	12, 937	10, 938	15, 212	12, 336
Chum		3, 310	5, 472	6, 567	13, 652	13, 055
Humpback		----------	2, 270	21, 112	----------	----------
Silver		3, 597	12, 384	20, 649	26, 021	14, 080
Shad	----------	103	----------	85	125	100
Smelt	----------	322	528	937	1, 370	2, 897
Steelhead trout	----------	2, 419	4, 971	1, 507	1, 859	2, 339
Sturgeon	----------	544	1, 884	90	129	185
Surf fishes	----------	65	169	43	149	661
Tomcod	----------	----------	10	----------	----------	----------
Other fish	1, 135	40	30	49	78	----------
Total	19, 348	26, 046	51, 046	112, 724	85, 547	96, 212
SHELLFISH, ETC.						
Crabs	2	79	163	275	723	2, 179
Shrimp	5	2	36	20	430	247
Clams:						
Hard	300	684	1, 405	3, 131	775	155
Razor					133	234
Oysters:						
Eastern, market	4, 066	9, 895	6, 484	----------	269	----------
Native, market				5, 901	1, 069	1, 321
Japanese, market				----------	----------	----------
Mussels	----------	----------	24	19	----------	----------
Total	4, 373	10, 660	8, 112	9, 346	3, 309	4, 136
WHALE PRODUCTS						
Whale oil	----------	----------	----------	15	----------	----------
Other whale products	----------	----------	----------	----------	8	----------
Total	----------	----------	----------	15	8	----------
Grand total	23, 721	36, 706	59, 158	122, 085	88, 954	100, 352

Species	1915	1922	1923	1924	1925	1926	1927	1928
FISH								
Carp	200	375	384	379	286	659	922	557
Catfish	----------	----------	1	----------	----------	----------	----------	----------
Cod:								
Fresh	22	----------	----------	----------	1	----------	3	----------
Tongues	----------	----------	----------	----------	----------	----------	18	14
Dry salted	5, 498	1, 176	3, 681	3, 701	4, 126	3, 977	2, 587	2, 885
Flounders:								
"Sole"	68	131	120	266	231	205	224	223
Other	26	85	196	188	261	140	98	124
Grayfish	----------	----------	----------	----------	----------	----------	90	3
Halibut	40, 591	18, 467	24, 151	15, 330	18, 516	17, 850	10, 713	11, 928
Herring	2, 129	260	425	183	670	2, 822	812	1, 537
"Lingcod"	837	----------	----------	477	695	823	1, 017	997
Perch	----------	----------	----------	----------	----------	----------	60	75
Rockfishes	101	[1] 361	[1] 579	295	443	443	477	617
Sablefish	576	1, 022	2, 226	1, 895	2, 442	2, 212	2, 784	2, 335

[1] Includes fresh cod and "lingcod."

Fisheries of Washington, 1888 to 1928—Continued

CATCH—Continued

[Expressed in thousands of pounds; that is, 000 omitted. Salt fish, except cod, have been converted to the equivalent of fresh fish]

Species	1915	1922	1923	1924	1925	1926	1927	1928
FISH—continued								
Salmon:								
Blueback or sockeye	5,043	5,104	3,664	5,053	10,212	3,726	7,814	4,672
Chinook	18,188	10,970	13,217	24,698	23,756	19,108	21,238	17,433
Chum	17,156	6,320	8,791	12,219	11,493	13,284	11,147	17,122
Humpback	29,998	145	33,097	498	35,309	128	41,370	1,261
Silver	18,630	14,817	12,950	16,158	15,195	15,410	15,643	13,350
Shad	96	48	89	193	255	380	326	515
Sharks	7,493	6	59	97	42	290	------	------
Skates	229	4	7	10	1	4	1	2
Smelt	2,158	1,392	1,178	1,441	1,475	827	1,334	1,405
Steelhead trout	2,114	476	1,401	1,443	1,719	2,562	2,167	1,632
Sturgeon	44	268	84	86	120	85	81	84
Surf fishes	15	51	54	44	80	70	------	------
Tomcod	------	------	1	------	------	1	(2)	------
Other fish	------	[3] 2	------	------	------	[3] 26	23	20
Total	151,212	61,480	106,355	84,354	127,328	85,033	120,949	78,791
SHELLFISH, ETC.								
Crabs	1,734	1,172	1,154	1,146	952	1,938	1,711	1,521
Shrimp	386	62	35	38	36	51	39	36
Clams:								
Hard	176	92	80	203	222	215	250	215
Razor	373	949	381	524	893	1,288	1,859	1,535
Soft	1	------	------	------	------	------	------	------
Oysters:								
Eastern, market	265	45	45	36	10	20	113	74
Native, market	350	555	682	651	663	698	616	615
Japanese, market	------	35	10	16	28	60	------	------
Scallops	------	------	------	4	6	210	11	18
Octopus	------	20	52	105	106	124	102	63
Mussels	1	------	------	------	------	------	------	------
Squid	15	------	------	------	------	------	------	------
Trepang or sea cucumber	------	------	------	------	------	------	5	6
Other shellfish	------	------	------	------	4	------	------	------
Total	3,401	2,930	2,439	2,723	2,920	4,604	4,706	4,083
WHALE PRODUCTS								
Sperm oil	------	261	347	68	87	------	------	------
Whale oil	2,635	1,763	1,376	1,472	142	------	------	------
Other whale products	1,298	1,130	744	606	210	------	------	------
Total	3,933	3,154	2,467	2,146	439	------	------	------
Grand total	158,546	67,564	111,261	89,223	130,687	89,637	125,655	82,874

[2] Less than 500 pounds.

[3] Includes cod tongues.

Fisheries of Oregon, 1888 to 1928

CATCH

[Expressed in thousands of pounds; that is, 000 omitted. Salt fish have been converted to the equivalent weight of fresh fish]

Species	1888	1892	1895	1899	1904	1908
FISH						
Carp	------	------	------	------	20	30
Catfish	------	------	99	54	180	201
Flounders:						
"Sole"	------	------	------	------	------	------
Other	------	10	------	4	------	23
Halibut	------	19	5	17	25	16
Herring	------	------	------	19	18	15
"Lingcod"	------	26	6	------	------	20
Rockfishes	------	86	47	------	21	5

Fisheries of Oregon, 1888 to 1928—Continued

CATCH—Continued

[Expressed in thousands of pounds; that is, 000 omitted. Salt fish have been converted to the equivalent weight of fresh fish]

	1888	1892	1895	1899	1904	1908
FISH—continued						
Salmon:						
Blueback or sockeye	24, 481	3, 140	566	579	334	403
Chinook		15, 686	21, 101	13, 750	20, 022	18, 176
Chum			2, 125	790	999	905
Silver		4, 429	9, 463	5, 154	4, 255	4, 923
Shad	10	109	125	32	37	431
Smelt	180		31	28	25	30
Steelhead trout		2, 587	3, 220	1, 104	1, 104	2, 469
Sturgeon	1, 157	2, 513	956		9	114
Surf fishes				6	4	26
Other fish	76				10	13
Total	25. 904	28, 605	37, 744	21, 537	27, 063	27, 800
SHELLFISH						
Crabs		4	24	111	246	200
Crawfish	14	20	59	116	187	178
Clams:						
Razor	75	50	281	979	31	
Hard						1
Soft						30
Oysters, native, market	275	147	89	59	7	7
Total	364	221	453	1, 265	471	416
Grand total	26, 268	28, 826	38, 197	22, 802	27, 534	28, 216

Species	1915	1922	1923	1924	1925	1926	1927	1928
FISH								
Carp	50				63		68	13
Flounders:								
"Sole"					2	1	1	(1)
Other	2		5			4		
Halibut	235	239	864	511	578	363	372	426
Herring	12		94				54	(1)
"Lingcod"	13	21	78	52	59	16	68	62
Perch								3
Pilchard								(1)
Rockfishes	12	2	63	39	31	67	44	74
Sablefish	16	57	250	161	348	387	336	280
Salmon:								
Blueback or sockeye	337	936	2, 065	436	353	805	237	152
Chinook	23, 482	12, 650	17, 361	19, 606	21, 420	16, 398	17, 132	12, 005
Chum	1, 982	128	1, 136	2, 998	2, 338	812	3, 679	5, 244
Silver	4, 845	4, 379	6, 717	10, 279	10, 247	8, 807	7, 021	5, 174
Shad	489	578	404	983	1, 017	1, 655	1, 516	1, 344
Smelt	4	217	277	227	309	73	412	19
Steelhead trout	2, 366	1, 821	2, 856	3, 605	2, 307	2, 657	2, 196	1, 814
Striped bass					6		2	13
Sturgeon	98	217	124	176	161	138	133	89
Surf fishes	12		15					
Tomcod	22		5					
Other fish	16	5						
Total	33, 993	21, 250	32, 314	39, 073	39, 239	32, 183	33, 271	26, 712
SHELLFISH								
Crabs	415	731	359	433	522	533	600	493
Crawfish	184	69	142	12	128	106	138	158
Clams:								
Razor	77	59	49	33	89	154	164	101
Hard				1		5		
Soft	22	14	5	15	20	14		
Mixed							[2] 19	10
Oysters, native, market	2	11	14	11	10	3	3	(1)
Total	700	884	569	505	769	815	924	762
Grand total	34, 693	22, 134	32, 883	39, 578	40, 008	32, 998	34, 195	27, 474

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[1] Less than 500 pounds.

[2] Consisted mostly of soft clams.

Fisheries of California, 1888 to 1928

CATCH

[Expressed in thousands of pounds; that is, 000 omitted. Salt fish, except cod, have been converted to the equivalent of fresh fish]

Species	1888	1892	1895	1899	1904	1908	1915	1918
FISH								
Albacore			299	179	210		21, 074	7, 265
Anchovies		150	460	7		220	113	868
Barracuda		436	1, 245	1, 425	2, 375	3, 205	3, 923	4, 838
Bonito		421	301	189	212	329	448	2, 441
Carp		66	46	284	70	427	351	313
Catfish			277	466	737	1, 069	517	205
Cod, salted		2, 275	2, 784	5, 917	5, 623	3, 298	4, 953	4, 713
Flounders:								
"California halibut"								[1] 4, 754
"Sole"				32	3, 874		5, 762	7, 028
Other		4, 270	3, 308	4, 715	4, 361	[2] 6, 681	6, 934	2, 574
Hake						32	269	219
Halibut								
Hardhead				186	65		73	28
Herring		4, 487	3, 181	1, 653	1, 426	825	864	7, 938
Kingfish		40	148	127	174	682	656	975
"Lingcod"		231	139	148	293	167	578	916
Mackerel		350	95	168	135	197	266	4, 076
Mullet				22	13	4	3	91
Pilchard or sardine		753	732	2, 383	1, 036	4, 638	4, 390	157, 653
Pompano			11	13	34	89	19	24
Rock bass							901	784
Rockfishes		1, 839	1, 529	1, 188	1, 820	2, 319	4, 352	7, 890
Sablefish						35	65	499
Salmon:								
Chinook		3, 721	4, 450	7, 091	14, 916	8, 846	7, 324	13, 026
Silver		960	164	60	272	141	415	
Blueback				22	279	147		
Chum							38	
Sculpin				3	3		9	28
Sea bass:								
Black		263	37	96	63	161	392	249
White, squeteague			640	952	983	1, 337	1, 221	1, 684
Shad		526	247	1, 138	327	1, 169	6, 893	2, 384
Sharks							68	403
Sheepshead								23
Skates					198	124	783	246
Skipjack, or striped tuna								3, 027
Smelt		1, 920	1, 740	1, 315	1, 362	718	1, 137	797
Steelhead trout		310	461	114	55	76	32	22
Striped bass		56	252	1, 234	1, 570	1, 776	1, 784	1, 408
Sturgeon		718	300	206		10	18	
Surf fishes		[3] 335	[3] 267	116	119	198	128	198
Swordfish						8		18
Tomcod			64	376	69	49	42	49
Tuna:								
Yellowfin			32	24	15	12		
Mixed								6, 241
Whitebait							56	136
Whitefish			263	58	270	466		
Yellowtail		546	316	334	358	571	1, 343	11, 798
Other fish	28, 736	2, 217	583	674	1, 266	1, 201	673	859
Total	28, 736	26, 890	24, 371	32, 915	44, 583	41, 227	78, 867	258, 685
SHELLFISH, ETC.								
Crabs	230	2, 862	2, 565	3, 677	5, 111	1, 702	1, 414	1, 619
Sea crawfish or spiny lobster	231	303	558	607	1, 078	573	892	931
Shrimp	4, 902	5, 313	5, 425	6, 495	2, 576	258	298	722
Clams:								
Cockle								6
Pismo								166
Soft					140	468	67	52
Mixed	2, 396	2, 497	1, 583	2, 171	96	132	66	19
Mussels		2, 880	488	364	28	68	19	8
Oysters:								
Eastern, market				25, 200	1, 120	729	376	136
Native, market	910	15, 099	14, 727	3, 600	301		8	6
Abalone	[4] 3, 606	[4] 405	[5] 126	369	[4] 825	1, 005	731	121
Octopus	[6] 244	[6] 375	2				32	33
Scallops				4				

[1] Includes halibut.
[2] Includes "soles."
[3] Includes Sacramento perch.
[4] Includes shells.
[5] Dried.
[6] Includes squid.

Fisheries of California, 1888 to 1928—Continued

CATCH—Continued

Species	1888	1892	1895	1899	1904	1908	1915	1918
SHELLFISH, ETC.—continued								
Squid			30	1,869	754	110	6,211	362
Other shellfish								21
Total	12,519	29,734	25,504	44,356	12,029	5,045	10,114	4,202
WHALE PRODUCTS								
Sperm oil						169		
Whale oil		1,575	550	507	325	13		23
Other whale products		197	99	207	87	32		
Total		1,772	649	714	412	214		23
Grand total	41,255	58,396	50,524	77,985	57,024	46,486	88,981	262,910

Species	1919	1920	1921	1922	1923
FISH					
Anchovies	1,610	570	1,947	653	307
Barracuda	5,825	8,201	7,625	6,250	7,201
Carp	261	134	102	67	149
Catfish	165	112	148	126	129
Cod, salted	2,086	2,474	805	1,680	1,398
Flounders:					
"California halibut"	[1] 4,859	[1] 4,445	[1] 3,796	[1] 3,403	[1] 2,427
"Sole"	5,529	3,822	4,871	7,043	7,086
Other	1,148	1,204	1,078	1,712	1,874
Hake	133	142	90	75	79
Hardhead	49	13	76	18	10
Herring	4,290	274	542	342	384
Kingfish	609	461	391	582	412
"Lingcod"	1,063	688	426	568	467
Mackerel	2,703	3,048	2,975	2,496	3,592
Mullet	9	18	29	31	74
Pilchard or sardine	153,877	118,521	59,323	93,400	159,197
Pompano	61	30	17	16	33
Rock bass	450	210	364	316	357
Rockfishes	5,333	5,601	4,688	4,263	4,950
Sablefish	335	781	1,023	269	538
Salmon, chinook	13,146	11,134	7,991	7,235	7,090
Sculpin	25	36	58	42	60
Sea bass:					
Black	185	148	127	97	227
White, squeteague	2,520	2,661	2,643	2,982	2,520
Shad	1,574	1,410	863	1,110	1,285
Sharks	613	811	539	282	360
Sheepshead	18	15	24	18	32
Skates	253	89	60	121	134
Smelt	757	744	765	830	806
Steelhead trout	17	7	4	3	3
Striped bass	762	672	602	684	910
Surf fishes	191	181	243	238	326
Swordfish	18	13	15	23	12
Tomcod	31	37	42	32	42
Tuna and tunalike fishes:					
Albacore	13,631	18,877	15,277	13,232	12,515
Bluefin	14,991	10,530	2,032	2,838	3,301
Bonito	3,504	873	321	929	1,115
Skipjack, or striped tuna	6,897	7,957	1,139	11,862	11,463
Yellowfin	348	1,965	1,238	7,337	10,837
Yellowtail	5,005	2,705	2,491	3,414	3,980
Mixed	2,461	5,483	1,553	692	662
Whitebait	6	1	5	84	68
Whitefish	27	14	29	30	40
Other fish	655	681	1,359	280	237
Total	258,030	217,793	129,736	177,705	248,689
SHELLFISH, ETC.					
Crabs	1,305	1,221	801	860	1,076
Sea crawfish or spiny lobster	1,089	1,190	1,278	1,017	1,093
Shrimp	813	818	910	990	1,113
Abalone	152	180	298	312	318

[1] Includes halibut.

Fisheries of California, 1888 to 1928—Continued

CATCH—Continued

Species	1919	1920	1921	1922	1923
SHELLFISH, ETC.—continued					
Clams:					
Cockle	3	2	2	4	5
Pismo	104	75	55	49	59
Soft	50	39	36	57	47
Mixed	10	12	9	5	4
Mussels	6	6	2	7	10
Octopus	21	71	56	99	110
Oysters:					
Eastern, market	152	112	77	74	69
Native, market	14	9	1		
Squid	3, 698	508	433	210	1, 180
Other shellfish	270	97	4	13	1
Total	7, 687	4, 340	3, 962	3, 697	5, 085
WHALE PRODUCTS					
Sperm oil		13	9	38	16
Whale oil	3, 120	4, 425	1, 561	6, 863	4, 644
Other whale products	1, 500	2, 390	696	3, 136	2, 370
Total	4, 620	6, 828	2, 266	10, 037	7, 030
Grand total	270, 337	228, 961	135, 964	191, 439	260, 804

Species	1924	1925	1926	1927	1928
FISH					
Anchovies	347	124	60	368	357
Barracuda	7, 129	8, 006	5, 022	6, 200	6, 452
Carp	76	95	72	63	157
Catfish	352	366	257	371	458
Cod, salted	2, 884	3, 416	3, 712	2, 747	2, 597
Cod tongues					8
Eels				[7]	[7]
Flounders:					
"California halibut"	2, 576	2, 452	1, 431	1, 302	1, 188
"Sole"	8, 835	8, 763	8, 650	10, 298	10, 280
Other	2, 081	2, 551	1. 813	1, 468	1, 517
Grayfish				325	624
Hake	61	22	58	85	109
Halibut	133	162	257	570	376
Hardhead	19	24	44	33	62
Herring	436	866	454	1, 168	1, 140
Horse mackerel				467	540
Kingfish	384	537	485	529	442
"Lingcod"	400	683	645	555	849
Mackerel	3, 241	3, 522	3, 623	4, 741	35, 262
Mullet	62	37	52	40	83
Perch				263	237
Pilchard or sardine	242, 686	315, 295	286, 741	342, 275	420, 270
Pompano	18	11	8	55	30
Rock bass	466	330	636	526	626
Rockfishes	4, 717	5, 454	7, 538	6, 377	6, 420
Sablefish	933	722	183	992	917
Salmon, chinook	10, 015	9, 526	6, 084	6, 512	4, 479
Sculpin	109	226	108	114	100
Sea bass:					
Black	231	189	378	468	382
White, squeteague	1, 516	1, 920	2, 216	2, 273	1, 281
Shad	1, 539	2, 440	903	4, 104	2, 089
Sharks	393	372	507		
Sheepshead	24	49	139	159	373
Skates	131	183	233	263	459
Smelt	722	752	883	966	917
Splittail				11	11
Squawfish				8	4
Steelhead trout	87				
Striped bass	662	838	751	648	484
Stingray					3
Suckers				1	1
Surf fishes	289	268	209		
Swordfish	32	27	46	130	426
Tomcod	43	15	4	1	12

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[7] Less than 500 pounds.

Fisheries of California, 1888 to 1928—Continued

CATCH—Continued

Species	1924	1925	1926	1927	1928
FISH—continued					
Tuna and tunalike fishes:					
Albacore	17, 695	22, 207	2, 469	4, 579	283
Bluefin	3, 241	3, 804	6, 527	4, 899	13, 701
Bonito	1, 038	867	3, 079	1, 717	2, 088
Skipjack, or striped tuna	3, 781	14, 235	20, 995	33, 807	15, 815
Yellowfin	3, 063	13, 238	12, 565	25, 934	32, 251
Yellowtail	4, 714	3, 180	5, 023	4, 225	2, 683
Mixed	547	427	261	--------	--------
Whitebait	122	71	86	134	135
Whitefish	273	222	368	313	222
Other fish	377	253	482	207	196
Total	328, 480	428, 747	386, 057	473, 291	569, 396
SHELLFISH, ETC					
Crabs	1, 507	3, 234	3, 296	2, 960	3, 575
Sea crawfish or spiny lobster	1, 027	1, 486	1, 175	1, 491	1, 077
Shrimp	1, 551	1, 460	1, 432	1, 697	2, 281
Abalone	449	471	412	563	421
Clams:					
Cockle	1	--------	2	1	3
Pismo	73	81	69	33	31
Soft	41	44	41	25	25
Mixed	7	9	5	[8] 10	7
Mussels	8	4	1	3	(7)
Octopus	166	133	63	37	6
Oysters:					
Eastern, market	53	57	61	56	73
Native, market	--------	--------	--------	--------	4
Squid	6, 831	1, 891	3, 136	6, 014	1, 352
Terrapin	--------	--------	--------	--------	(7)
Turtles	--------	--------	--------	--------	5
Total	11, 714	8, 870	9, 693	12, 890	8, 860
WHALE PRODUCTS					
Sperm oil	--------	49	37	--------	--------
Whale oil	2, 932	1, 526	1, 980	5, 166	4, 880
Other whale products	1, 768	1, 109	883	--------	--------
Total	4, 700	2, 684	2, 900	5, 166	4, 880
Grand total	344, 894	440, 301	398, 650	491, 347	583, 136

[7] Less than 500 pounds.

[8] Consisted mostly of soft clams.

HALIBUT FISHERY OF THE PACIFIC COAST [9]

UNITED STATES AND CANADA

The halibut fishery of the Pacific coast, which is prosecuted by United States and Canadian vessels, ranks as one of the foremost fisheries of that section. In 1929 the total weight of the catch landed by vessels of both nationalities amounted to 55,490,000 pounds, valued at $6,698,000. This is virtually the same as the amount of the catch in 1928 and but little more than that for 1925, 1926, or 1927. Of this amount, 84 per cent was taken by United States craft and 16 per cent by Canadian craft. Of the total catch, 53 per cent was landed in British Columbia. Owing to Prince Rupert, British Columbia, having excellent rail facilities with western points of Canada and the United States, and being in close proximity to the fishing grounds, the majority of the British Columbia landings were made there. The rest of them were made at Vancouver and Victoria, British Columbia. Twenty-two per cent of the total catch was landed at ports in the State of Washington and 25 per cent at ports in Alaska.

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[9] To preclude the possibility of unwarranted comparison of figures given in this section with others for years previous to 1927, it should be explained that the figures as herein compiled differ from those published in separate reports for the Alaska fisheries and the Pacific Coast States. The difference lies principally in the fleet classifications as between Washington and Alaska, though there is reason to believe that the figures on landings also are not comparable with those previously published, due to variable practice in the inclusion of United States caught halibut landed at foreign ports as well as the possible duplication of figures.

The present compilation is a complete résumé of the landings of the United States fleet for the year 1929 at all Pacific ports except those in Oregon and California, without omission or duplication. The fleet classification has been applied arbitrarily by including in the "Washington fleet" all vessels that land more than half of their catch in that State. All others were included in the "Alaska fleet." It has been necessary to use "hailing fares" for the weight of the landings at Seattle, Wash., and Prince Rupert, British Columbia, although the error therefrom is estimated to be less than 2 per cent. The Alaska data are based on actual weight of the fares. Halibut are landed head on, but eviscerated.

UNITED STATES

Operating units.—The halibut fleet of the United States numbered 226 vessels that fished regularly for halibut; their total net tonnage was 5,474, they were manned by 1,494 fishermen, and operated 9,440 skates of lines. In addition to the regular vessels, 91 other vessels and 87 boats landed halibut at times. These used 3,286 skates of lines.

Catch.—The total weight of the catch as landed by all United States craft fishing for halibut amounted to 50,834,190 pounds, valued at $5,952,097. Of this amount, 92 per cent consisted of halibut, 5 per cent of sablefish, 2 per cent of "lingcod," and 1 per cent of rockfishes. The regular halibut vessels made 91 per cent of the total catch, while the casual vessels and boats in this fishery caught the rest, or 9 per cent.

Halibut fishery of the Pacific coast, 1929

UNITED STATES OPERATING UNITS: BY FLEET CLASSIFICATION

Items	Washington fleet	Alaska fleet	Total
Regular halibut vessels:			
Number	57	169	226
Net tonnage	1, 342	4, 132	5, 474
Crew	371	1, 123	1, 494
Dories	57	169	226
Skates of lines	2, 510	6, 930	9, 440
Vessels in other fisheries but landing one or more fares of halibut:			
Number	41	50	91
Net tonnage	628	742	1, 370
Crew	202	188	390
Dories	25	32	57
Skates of lines	1, 515	1, 080	2, 595
Regular halibut boats:			
Number		11	11
Crew		29	29
Skates of lines		220	220
Boats in other fisheries but landing one or more fares of halibut:			
Number	2	74	76
Crew	4	134	138
Skates of lines	30	441	471

Halibut fishery of the Pacific coast, 1929—Continued

CATCH OF ALL SPECIES: BY UNITED STATES VESSELS AND BOATS

Fleet classification	Landed in—						Total	
	Washington		British Columbia		Alaska			
	Pounds	*Value*	*Pounds*	*Value*	*Pounds*	*Value*	*Pounds*	*Value*
WASHINGTON FLEET								
Regular vessels:								
Halibut	6,569,350	$980,653	777,700	$97,554	354,970	$35,228	7,702,020	$1,113,435
Sablefish	1,933,050	118,835	------	------	1,753	130	1,934,803	118,965
"Lingcod"	616,435	24,070	------	------	------	------	616,435	24,070
Rockfishes	339,825	14,604	------	------	------	------	339,825	14,604
Total	9,458,660	1,138,162	777,700	97,554	356,723	35,358	10,593,083	1,271,074
Other vessels and boats:								
Halibut	1,153,370	164,859	196,700	23,768	12,956	1,445	1,363,026	190,072
Sablefish	139,800	8,163	------	------	------	------	139,800	8,163
"Lingcod"	261,550	8,655	------	------	------	------	261,550	8,655
Rockfishes	116,100	4,778	------	------	------	------	116,100	4,778
Total	1,670,820	186,455	196,700	23,768	12,956	1,445	1,880,476	211,668
ALASKA FLEET								
Regular vessels:								
Halibut	4,600,950	640,428	18,712,200	2,308,918	11,607,737	1,204,631	34,920,887	4,153,977
Sablefish	209,000	12,476	------	------	340,988	17,454	549,988	29,930
"Lingcod"	189,250	9,233	------	------	10,755	322	200,005	9,555
Rockfishes	100,150	4,597	------	------	17,833	1,021	117,983	5,618
Total	5,099,350	666,734	18,712,200	2,308,918	11,977,313	1,223,428	35,788,863	4,199,080
Other vessels and boats:								
Halibut	116,000	21,170	561,900	65,139	1,858,211	182,319	2,536,111	268,628
Sablefish	1,000	70	------	------	23,874	1,269	24,874	1,339
"Lingcod"	------	------	------	------	1,580	44	1,580	44
Rockfishes	------	------	------	------	9,203	264	9,203	264
Total	117,000	21,240	561,900	65,139	1,892,868	183,896	2,571,768	270,275
BOTH FLEETS								
Regular vessels:								
Halibut	11,170,300	1,621,081	19,489,900	2,406,472	11,962,707	1,239,859	42,622,907	5,267,412
Sablefish	2,142,050	131,311	------	------	342,741	17,584	2,484,791	148,895
"Lingcod"	805,685	33,303	------	------	10,755	322	816,440	33,625
Rockfishes	439,975	19,201	------	------	17,833	1,021	457,808	20,222
Total	14,558,010	1,804,896	19,489,900	2,406,472	12,334,036	1,258,786	46,381,946	5,470,154
Other vessels and boats:								
Halibut	1,269,370	186,029	758,600	88,907	1,871,167	183,764	3,899,137	458,700
Sablefish	140,800	8,233	------	------	23,874	1,269	164,674	9,502
"Lingcod"	261,550	8,655	------	------	1,580	44	263,130	8,699
Rockfishes	116,100	4,778	------	------	9,203	264	125,303	5,042
Total	1,787,820	207,695	758,600	88,907	1,905,824	185,341	4,452,244	481,943
All vessels and boats:								
Halibut	12,439,670	1,807,110	20,248,500	2,495,379	13,833,874	1,423,623	46,522,044	5,726,112
Sablefish	2,282,850	139,544	------	------	366,615	18,853	2,649,465	158,397
"Lingcod"	1,067,235	41,958	------	------	12,335	366	1,079,570	42,324
Rockfishes	556,075	23,979	------	------	27,036	1,285	583,111	25,264
Grand total	16,345,830	2,012,591	20,248,500	2,495,379	14,239,860	1,444,127	50,834,190	5,952,097

Halibut fishery of the Pacific coast, 1929—Continued

CATCH OF HALIBUT: BY UNITED STATES AND CANADIAN VESSELS AND BOATS

[Expressed in thousands of pounds and thousands of dollars; that is, 000 omitted]

Fleet classification	Landed in—						Total	
	Washington		British Columbia		Alaska			
	Quantity	*Value*	*Quantity*	*Value*	*Quantity*	*Value*	*Quantity*	*Value*
WASHINGTON FLEET								
Regular halibut vessels	6, 569	981	778	98	355	35	7, 702	1, 114
Other vessels or boats	1, 153	165	197	24	13	1	1, 363	190
Total	7, 722	1, 146	975	122	368	36	9, 065	1, 304
ALASKA FLEET								
Regular halibut vessels	4, 601	640	18, 712	2, 309	11, 608	1, 205	34, 921	4, 154
Other vessels or boats	116	21	562	65	1, 858	182	2, 536	268
Total	4, 717	661	19, 274	2, 374	13, 466	1, 387	37, 457	4, 422
COMBINED FLEETS								
Regular halibut vessels	11, 170	1, 621	19, 490	2, 407	11, 963	1, 240	42, 623	5, 268
Other vessels and boats	1, 269	186	759	89	1, 871	183	3, 899	458
Total	12, 439	1, 807	20, 249	2, 496	13, 834	1, 423	46, 522	5, 726
British Columbia fleet			8, 960	[1] 971	8	1	8, 968	972
Grand total	12, 439	1, 807	29, 209	3, 467	13, 842	1, 424	55, 490	6, 693

[1] Estimated.

Halibut fishery of the Pacific coast, 1925–1929

[Expressed in thousands of pounds; that is, 000 omitted]

Year	Landed in—							Total		Grand total
	Washington: by U. S. vessels	British Columbia			Alaska					
		By U. S. vessels	By Canadian vessels	Total	By U. S. vessels	By Canadian vessels	Total	By U. S. vessels	By Canadian vessels	
1925	9, 685	22, 390	7, 731	30, 121	10, 038		10, 038	42, 113	7, 731	49, 844
1926	10, 050	20, 331	9, 277	29, 608	14, 122		14, 122	44, 503	9, 277	53, 780
1927	11, 789	18, 258	10, 076	28, 334	15, 052		15, 052	45, 099	10, 076	55, 175
1928	13, 753	19, 963	11, 396	31, 359	9, 733	70	9, 803	43, 449	11, 466	54, 915
1929	12, 439	20, 249	8, 960	29, 209	13, 834	8	13, 842	46, 522	8, 968	55, 490

NOTE.—Statistics for Washington are furnished by the Seattle Halibut Exchange, those for British Columbia by the U. S. Consular Service and the Prince Rupert Halibut Exchange, and those for Alaska by bureau agents.

VESSEL FISHERIES AT SEATTLE, WASH.

During 1929 a total of 39,671,083 pounds of fishery products, valued at $4,029,074, were handled by Seattle wholesale dealers, exclusive of amounts received by transporting vessels or rail from Alaska or Canada. This is an increase over the previous year by 17 per cent in amount, and 28 per cent in value and was due mainly to the larger quantities of salmon handled.

Of the total amount handled, 16,257,405 pounds of fish valued at $1,996,468, were landed by fishing vessels which made 1,128 trips to the fishing grounds. This is a decrease of 37 trips and 7 per cent in amount compared with the previous year, but an increase of 14 per cent in value. Halibut was the most important species taken by fishing vessels, accounting for 76 per cent of the catch. Sablefish accounted for 14 per cent; "lingcod," 6 per cent, and rockfishes, 4 per cent of the total catch. In addition, 125 pounds of octopus, valued at $9 were landed.

The catch by fishing vessels was taken from fishing grounds along the Pacific coast from points off Oregon to Wosnesenski Island, Alaska. Hecate Straits ranked as the most important grounds, 35 per cent of the catch being made there. Second in importance was Cape Flattery, which provided 26 per cent of the catch, while Portlock Bank ranked third, furnishing 10 per cent. The remainder of the catch was taken mainly on fishing grounds west of longitude 145° W.

Most of the catch by fishing vessels was made during the nine months from March to November, inclusive, which is due mainly to the closed season on the taking of halibut from November 15 to February 15. During each of the above months the landings averaged about 1,700,000 pounds.

During 1929, 23,413,678 pounds of fishery products, valued at $2,032,606, were received by wholesale fish dealers from sources other than Alaska or Canada, or from vessels in the halibut fishery discussed above. Most of these were taken in Puget Sound. This was 44 per cent more than the amount received from similar sources in 1928 by Seattle wholesale dealers, and the value was 46 per cent greater. The increase in amount and value was due principally to the larger amount of salmon which was handled, the year 1929 being a "good" year for the salmon run.

Of the total fishery products handled by wholesale fish dealers derived from sources other than the halibut fleet or from Alaska or Canada, salmon accounted for 90 per cent, and the remainder consisted largely of such species as crabs, herring, sablefish, flounders, smelt, and "lingcod."

During the months of July, August, September, and October, inclusive, Seattle wholesale dealers had their busiest season, as the transactions during these months accounted for 74 per cent of the trade other than with the halibut fleet.

Fishery products landed by United States fishing vessels at Seattle, Wash., 1929 [1]

BY BANKS

Fishing grounds	Trips	Halibut				Sablefish	
		No. 1		No. 2			
West of 145° W. longitude	*Number*	*Pounds*	*Value*	*Pounds*	*Value*	*Pounds*	*Value*
Wosnesenski Island	1	37,000	$5,550	13,000	$1,560		
Shumagin Islands	2	27,500	4,134	19,000	2,365		
Chirikof Island	6	207,000	30,287	87,500	9,500		
Trinity Island	11	267,000	39,054	147,800	18,433		
Albatross Bank	14	434,500	62,490	136,500	15,225		
Kodiak Bank	5	138,000	21,584	67,000	8,130		
Portlock Bank	41	1,175,300	166,594	399,700	47,986		
Cook Inlet	3	79,000	11,721	40,000	4,530		
Pye Island	1	43,000	6,558	5,000	600		
Cape Cleare	10	227,000	34,492	78,000	8,920		
Brooks Bay	1					60	$4
Middleton Island	8	193,700	28,115	64,300	7,786		

[1] Halibut fleet.

Fishery products landed by United States fishing vessels at Seattle, Wash., 1929—Continued

BY BANKS—Continued

Fishing grounds	Trips	Halibut				Sablefish	
		No. 1		No. 2			
	Number	*Pounds*	*Values*	*Pounds*	*Value*	*Pounds*	*Value*
North of Cape Ommaney							
Cape St. Elias	2	46,000	$6,412	13,000	$1,320		
Icy Bay	5	110,200	15,776	31,800	3,716	4,000	$280
Yakutat Bank	14	347,700	50,278	108,300	13,041		
Cape Fairweather	11	298,000	43,702	78,500	9,141		
Cape Spencer	1	17,000	2,401	25,000	3,000		
Cross Sound	1	13,000	1,901	2,000	240	1,000	20
W. Bank	3	82,500	11,827	21,500	2,708		
Cape Ommaney	2	18,300	2,937	14,200	1,716	2,000	140
Inside Alaskan waters	1	3,500	551			1,500	105
South of Cape Ommaney							
Cape Addington	7	41,500	6,842	251,500	32,765		
Forrester Island	2	8,200	1,521	1,300	182	13,000	700
Hecate Straits	478	2,574,600	421,592	2,450,000	319,140	283,250	15,205
Goose Island	5	17,500	2,459	56,500	6,530		
Triangle Island	1	1,300	286	200	28	400	16
Quatsino	1						
Nootka Sound	1						
Estavan	6						
West coast, Vancouver Island (general)	19	34,200	6,566	8,800	1,095	600	12
Cape Flattery	428	984,570	171,992	633,500	83,264	1,664,200	102,735
Oregon coast	37	130,300	24,110	47,800	7,114	281,400	18,675
Total	1,128	7,557,370	1,181,732	4,801,800	610,035	2,251,410	137,892

Fishing grounds	"Lingcod"		Rockfishes		Octopus		Total	
West of 145° W. longitude	*Pounds*	*Value*	*Pounds*	*Value*	*Pounds*	*Value*	*Pounds*	*Value*
Wosnesenski Island							50,000	$7,110
Shumagin Islands							46,500	6,499
Chirikof Island							294,500	39,787
Trinity Island							414,800	57,487
Albatross Bank							571,000	77,715
Kodiak Bank	500	$25	1,500	$75			207,000	29,814
Portlock Bank							1,575,000	214,580
Cook Inlet							119,000	16,251
Pye Island							48,000	7,158
Cape Cleare							305,000	43,412
Brooks Bay	13,000	826	10,000	712			23,060	1,542
Middleton Island							258,000	35,901
North of Cape Ommaney								
Cape St. Elias							59,000	7,732
Icy Bay							146,000	19,772
Yakutat Bank							456,000	63,319
Cape Fairweather							376,500	52,843
Cape Spencer							42,000	5,401
Cross Sound							16,000	2,161
W. Bank							104,000	14,535
Cape Ommaney	500	15	2,000	100			37,000	4,908
Inside Alaskan waters							5,000	656
South of Cape Ommaney								
Cape Addington	200	8	2,800	127			296,000	39,742
Forrester Island			1,000	30			23,500	2,433
Hecate Straits	197,600	5,884	197,850	7,356			5,703,300	769,177
Goose Island	3,200	79					77,200	9,068
Triangle Island	9,000	360					10,900	690
Quatsino	6,000	360	4,500	270			10,500	630
Nootka Sound	2,000	182	3,000	275			5,000	457
Estavan	31,000	2,368	18,000	1,299	125	$9	49,125	3,676
West coast, Vancouver Island (general)	102,800	6,677	55,200	3,385			201,600	17,735
Cape Flattery	661,000	22,739	260,850	10,945			4,204,220	391,675
Oregon coast	42,900	1,829	20,300	874			522,700	52,602
Total	1,069,700	41,352	577,000	25,448	125	9	16,257,405	1,990,468

Fishery products landed by United States fishery vessels at Seattle, Wash., 1929—Continued

BY MONTHS

Months	Trips	Halibut				Sablefish	
		No. 1		No. 2			
	Number	*Pounds*	*Value*	*Pounds*	*Value*	*Pounds*	*Value*
January	11						
February	46	213, 800	$34, 159	58, 300	$7, 122	7, 360	$198
March	114	921, 350	147, 844	342, 550	42, 426	43, 900	2, 070
April	165	1, 233, 000	175, 705	790, 100	95, 640	41, 550	1, 655
May	144	872, 900	130, 238	724, 600	84, 978	36, 900	1, 930
June	139	782, 200	119, 793	682, 900	80, 762	196, 400	11, 134
July	85	563, 500	94, 944	522, 250	70, 318	164, 900	8, 547
August	106	777, 350	123, 105	653, 600	83, 567	332, 500	17, 347
September	96	577, 320	98, 156	468, 250	67, 278	327, 400	18, 924
October	104	455, 550	85, 664	200, 250	31, 430	649, 700	44, 627
November	99	1, 160, 400	172, 124	359, 000	46, 514	440, 300	30, 626
December	19					10, 500	834
Total	1, 128	7, 557, 370	1, 181, 732	4, 801, 800	610, 035	2, 251, 410	137, 892

Months	"Lingcod"		Rockfishes		Octopus		Total	
	Pounds	*Value*	*Pounds*	*Value*	*Pounds*	*Value*	*Pounds*	*Value*
January	86, 500	$5, 587	49, 500	$3, 143			136, 000	$8, 730
February	95, 650	5, 746	56, 950	3, 392	125	$9	432, 185	50, 626
March	71, 000	3, 925	38, 050	2, 303			1, 416, 850	198, 568
April	182, 200	4, 558	48, 650	1, 903			2, 295, 500	279, 461
May	108, 350	1, 917	74, 350	2, 255			1, 817, 100	221, 318
June	109, 500	2, 327	53, 750	1, 666			1, 824, 750	215, 682
July	40, 800	918	30, 100	1, 226			1, 321, 550	175, 953
August	27, 800	1, 142	43, 700	1, 783			1, 834, 950	226, 944
September	67, 500	2, 371	65, 700	2, 603			1, 506, 170	189, 332
October	94, 650	3, 771	34, 600	1, 283			1, 434, 750	166, 775
November	96, 100	4, 598	20, 500	986			2, 076, 300	254, 848
December	89, 650	4, 492	61, 150	2, 905			161, 300	8, 231
Total	1, 069, 700	41, 352	577, 000	25, 448	125	9	16, 257, 405	1, 996, 468

Fishery products received by Seattle wholesale dealers, by months, 1929 [1]

Species	January		February		March		April		May	
Salmon:	*Pounds*	*Value*	*Pounds*	*Value*	*Pounds*	*Value*	*Pounds*	*Value*	*Pounds*	*Value*
Sockeye or red									4, 921	$738
King or spring	184	$18			5, 000	$1, 500	266, 466	$60, 693	933, 283	130, 660
Coho or silver	422	30							99, 834	5, 990
Chum or keta	21, 392	2, 139							80	4
Trout, steelhead	8, 031	1, 446	25, 800	$4, 644	4, 000	720			25, 196	3, 024
Rockfishes	6, 500	390	5, 760	298	8, 200	574	971	48	3, 037	197
"Lingcod"			4, 525	207	5, 200	208	4, 840	168	1, 791	36
Flounders:										
"Sole"	55, 000	2, 200	29, 375	1, 169	27, 300	1, 052	34, 959	1, 452	18, 754	792
Other	8, 000	160	267	9	400	16				
Herring					525, 400	2, 971				
Smelt	8, 000	1, 040							722	72
Perch	7, 000	490	4, 821	58	6, 300	378	4, 330	216		
Sturgeon									70	10
Octopus			162	8			1, 910	95	45	3
Crabs	30, 800	2, 800	37, 400	1, 838	25, 300	1, 360	13, 376	608	19, 910	905
Total	145, 329	10, 713	108, 110	8, 231	607, 100	8, 779	326, 852	63, 280	1, 107, 643	142, 431

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[1] Prior to the month of July, 1929, the above table was titled "Fishery products landed by collecting vessels at Seattle, Wash. (taken in Puget Sound)." This has been changed to the present title, "Fish received by Seattle wholesale dealers," due to the fact that fish received by Seattle wholesalers comes from local sources other than Puget Sound. It does not include fish received from Alaska or Canada, or vessels in the halibut fleet.

Fishery products received by Seattle wholesale dealers, by months, 1929—Contd.

Species	June		July		August		September	
	Pounds	*Value*	*Pounds*	*Value*	*Pounds*	*Value*	*Pounds*	*Value*
Salmon:								
Sockeye or red	3, 715	$483	57, 576	$8, 993	57, 079	$7, 749	6, 265	$895
King or spring	1, 586, 956	202, 968	2, 655, 427	324, 490	2, 243, 983	294, 065	407, 209	47, 551
Coho or silver	209, 769	20, 977	905, 227	76, 885	864, 151	67, 130	1, 210, 967	104, 416
Humpback or pink	590	30	77, 012	3, 143	2, 786, 209	121, 948	339, 194	16, 480
Chum or keta	515	41	9, 265	417	113, 834	5, 120	135, 903	5, 441
Trout, steelhead	9, 682	968	7, 808	968	2, 245	269	3, 536	422
Rockfishes	13, 687	273	12, 301	405	14, 035	688	7, 457	287
"Lingcod"	8, 621	172	22, 413	724	24, 580	702	12, 682	347
Flounders:								
"Sole"	10, 740	451	16, 889	709	21, 391	452	10, 606	318
Other			723	7	283	3	195	4
Halibut			1, 830	327	620	93		
Herring			16, 000	80			470	5
Smelt	270	27	3, 448	469	19, 621	2, 747	39, 299	5, 572
Perch					497	25	959	48
Sablefish							148, 733	8, 704
Sturgeon	215	22	4, 243	757	10, 551	1, 769	8, 600	1, 370
Octopus			57	2			30	2
Crabs	8, 448	384						
Total	1, 853, 208	226, 796	3, 790, 219	418, 376	6, 159, 079	502, 760	2, 332, 105	191, 862

Species	October		November		December		Total	
	Pounds	*Value*	*Pounds*	*Value*	*Pounds*	*Value*	*Pounds*	*Value*
Salmon:								
Sockeye or red	2, 993	$792					132, 549	$19, 650
King or spring	35, 844	4, 269	25, 234	$3, 020	14, 907	$1, 789	8, 174, 493	1, 071, 023
Coho or silver	1, 094, 780	120, 913	211, 390	23, 436	7, 378	883	4, 603, 918	420, 660
Humpback or pink	900	37					3, 203, 905	141. 638
Chum or keta	3, 616, 633	182, 346	979, 841	47, 851	123, 731	7, 641	5, 001, 194	251, 000
Trout, steelhead	1, 268	149	395	45	551	56	88, 512	12, 711
Rockfishes	10, 110	687	2, 246	67	1, 040	42	85, 344	3, 956
"Lingcod"	25, 791	1, 289	552	26	50	2	111, 045	3, 881
Flounders:								
"Sole"	17, 479	416	21, 521	4, 133	22, 990	876	287, 004	14, 020
Other							9, 868	199
Halibut							2, 450	420
Herring	5, 375	54					547, 245	3, 110
Smelt	37, 809	5, 594	21, 279	2, 907	11, 481	1, 575	141, 929	20, 003
Perch	365	18	673	39	331	13	25, 276	1, 285
Sablefish	212, 170	14, 852	1, 200	72	1, 685	118	363, 788	23, 746
Sturgeon	922	129			159	24	24, 760	4, 081
Octopus	57	3	108	5			2, 369	118
Crabs	88, 234	7, 520	240, 219	17, 478	144, 342	8, 212	[2] 608, 029	41, 105
Total	5, 150, 730	339, 068	1, 504, 658	99, 079	328, 645	21, 231	23, 413, 678	2, 032, 606

[2] 27,637 dozen.

LAKE FISHERIES [10]

UNITED STATES AND CANADA

In 1928 the total catch of the lake fisheries of the United States and Canada amounted to 92,913,909 pounds. This represents a decrease of 17 per cent as compared with the catch in 1927. Of the total catch, that taken in the United States amounted to 63,368,467 pounds, valued at $5,960,784. This represents 68 per cent of the total catch of the lake fisheries. It is a decrease of 22 per cent as compared with the previous year's catch. The Canadian catch, which amounted to 29,545,442 pounds, shows a decrease of 4 per cent as compared with the catch in the previous year.

CATCH

By species.—The statistics of the catch in the United States and Canada in 1928 show that lake herring ranked first in quantity of production among species of fish taken in the lake fisheries. The catch in 1928 amounted to 18,953,179 pounds, which is 20 per cent of the total production for all the lake fisheries. This represents a decrease of 26 per cent as compared with catch of the previous year. The catch of lake herring in the United States accounted for 79 per cent of the total. Lake trout ranked second in importance with a catch of 15,833,038 pounds and represents 17 per cent of the total production. The catch shows a decrease of 10 per cent as compared with that in the previous year. About 60 per cent of the trout were taken in the waters of the United States. Common whitefish ranked third in importance with a catch of 10,823,440 pounds, or 12 per cent of the total. This is an increase of 6 per cent as compared with the catch of the previous year. About 59 per cent of the catch was taken in United States waters. The catch of yellow perch, 56 per cent of which were taken in the waters of the United States, amounted to 10,381,960 pounds. This is an increase of 34 per cent as compared with the catch in 1927. The catch of blue pike, about 69 per cent of which were taken in the waters of the United States, amounted to 6,987,331 pounds. This is a decrease of 33 per cent as compared with the catch of 1927. The catch of cisco in Lake Erie, amounted to only 1,891,328 pounds in 1928. About 67 per cent of the catch was made in Canadian waters. The catch of this species represents a decrease of 59 per cent as compared with the previous year, and a large decrease as compared with the catches of this fish that were formerly made on Lake Erie.

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[10] The most recent complete statistical canvass made by the bureau for the American catch in the lake fisheries (Lakes Ontario, Erie, Huron, Michigan, Superior, St. Clair, Kabetogama, Namakan, and Sand Point, Lake of the Woods, and Rainy Lake) was for the year 1922. The statistics collected in this canvass are published in condensed form in Bureau of Fisheries Statistical Bulletin No. 618 and in full in the report of the division of fishery industries for 1923.

The statistics of the catch presented herewith for 1928 were obtained from the various State fisheries agencies and Dominion of Canada reports while statistics of the operating units (fishermen, vessels, boats, and gear) actually fished in 1928 were obtained by the bureau in a special canvass. In this latter canvass the catch, segregated as to method of taking, was not ascertained.

Statistics in the tables for the years 1913 to 1928 are for Lakes Ontario, Erie, Huron, Michigan, Superior, Namakan, Lake of the Woods, and Rainy Lake. Those for the years 1913 to 1924 were obtained in a survey of the lake fisheries made by the United States Tariff Commission, while those for the years 1925 to 1928, inclusive, were compiled and supplemented by the bureau from State statistics. To complete the data for the various lakes there have been included statistics of the Canadian lake fisheries for the years 1913 to 1928, which were obtained from official reports of the Dominion of Canada. The statistics shown for the years 1913 to 1925 are exclusive of the production of Illinois. The disparity resulting from the noninclusion of the production of Illinois is negligible. The production of Indiana from 1913 to 1925 has been estimated. The statistics from 1926 to 1928, inclusive, of the fisheries of these two States were collected by the bureau, which permits of their inclusion with the statistics collected by New York, Pennsylvania, Ohio, Michigan, Wisconsin, and Minnesota.

In all cases the statistics collected are for the calendar year, except for Lake of the Woods and Rainy Lake, and Lake Namakan in Minnesota, which are for two seasons. For Lake of the Woods the seasons are from June 1 to November 1 and December 1 to April 1, and for Rainy and Namakan Lakes from May 15 to November 1 and December 1 to April 1. The catch for these two seasons, in the order named, have been combined to constitute a year. The quantity of fish taken in these lakes between January 1 and April 1 amounted to less than 3 per cent of the total catch of these lakes in 1927.

By lakes.—Statistics of the production in the United States and Canada in 1928, by lakes, shows that Lake Erie ranked as the most important, with a catch of 30,110,270 pounds. This is a decrease of 11 per cent as compared with the catch in the previous year. Lake Superior ranked second in importance, the catch amounting to 18,532,835 pounds. This is a decrease of 9 per cent as compared with the catch in the previous year. Lake Michigan ranked third, with a catch amounting to 17,998,657 pounds. This is a decrease of 24 per cent compared with the catch in the previous year. The catch of Lake Huron amounted to 17,828,128 pounds, which is a decrease of 27 per cent as compared with that in the previous year. The catch in Lake Ontario amounted to 4,444,547 pounds, which is a decrease of 2 per cent as compared with the previous year. The catch in Lake of the Woods, Rainy Lake, and Namakan Lake, amounted to 3,999,472 pounds, which is a decrease of 17 per cent as compared with that in the previous year.

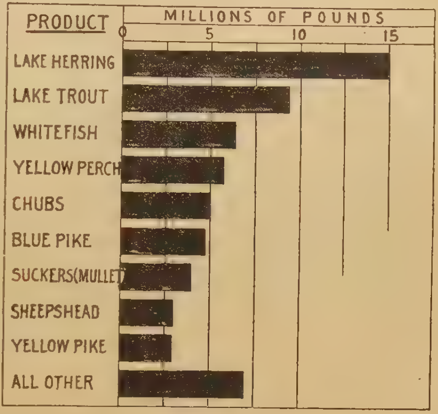

FIGURE 25.—Yield of principal fishery products in the Lakes fisheries, 1928

Lake Fisheries of the United States and Canada, 1928

CATCH: BY LAKES

Species	Lake Ontario			Lake Erie		
	United States	Canada	Total	United States	Canada	Total
	Pounds	*Pounds*	*Pounds*	*Pounds*	*Pounds*	*Pounds*
Blue pike	23, 728	14, 000	37, 728	4, 818, 792	2, 103, 800	6, 922, 592
Burbot	64, 232	(1)	[1] 64, 232	410, 722	(1)	[1] 410, 722
Carp	18, 365	120, 600	138, 965	918, 650	214, 900	1, 133, 550
Catfish and bullheads	40, 729	112, 500	153, 229	266, 714	53, 300	320, 014
Cisco				618, 028	1, 273, 300	1, 891, 328
Lake herring	342, 187	705, 800	1, 047, 987			
Lake trout	43, 223	806, 000	849, 223	2, 801	100	2, 901
Pike (jacks)		132, 000	132, 000	647	15, 000	15, 647
Sauger pike				1, 502, 325	(1)	[1] 1, 502, 325
Sheepshead				2, 919, 593	(1)	[1] 2, 919, 593
Sturgeon	19, 595	7, 800	27, 395	7, 613	215, 800	223, 413
Sucker, "mullet"	70, 815	(1)	[1] 70, 815	1, 318, 238	(1)	[1] 1, 318, 238
White bass				285, 179	(1)	[1] 285, 179
Whitefish, common	115, 793	1, 068, 400	1, 184, 193	974, 469	987, 900	1, 962, 369
Yellow perch	44, 679	163, 400	208, 079	4, 273, 987	4, 330, 400	8, 604, 387
Yellow pike	19, 840	33, 400	53, 240	1, 308, 420	182, 000	1, 490. 420
Miscellaneous	50, 661	426, 800	477, 461	16, 992	1, 090, 600	1, 107, 592
Total	853, 847	3, 590, 700	4, 444, 547	19, 643, 170	10, 467, 100	30, 110, 270

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[1] The Canadian catch of these species has been included under "Miscellaneous."

Lake Fisheries of the United States and Canada, 1928—Continued

CATCH: BY LAKES—Continued

Species	Lake Huron			Lake Michigan	Lake Superior		
	United States	Canada	Total	United States	United States	Canada	Total
	Pounds	*Pounds*	*Pounds*	*Pounds*	*Pounds*	*Pounds*	*Pounds*
Blue pike	----------	1,000	1,000	----------	----------	----------	----------
Burbot	2,088	(1)	[1] 2,088	30,206	----------	----------	----------
Carp	282,592	56,600	339,192	11,082	2,785	1,000	3,785
Catfish and bullheads	171,042	5,800	176,842	1,634	213	----------	213
Chubs	427,250	643,700	1,070,950	3,751,990	641,808	3,700	645,508
Lake herring	2,709,041	339,700	3,048,741	3,032,758	8,853,693	2,970,000	11,823,693
Lake trout	1,597,851	3,680,800	5,278,651	4,818,723	2,955,048	1,914,200	4,869,248
Pike (jacks)	19,759	106,300	126,059	107,479	11,222	8,800	20,022
Sauger pike	46,093	(1)	[1] 46,093	7,994	1,772	(1)	[1] 1,772
Sheepshead	12,742	(1)	[1] 12,742	1,602	----------	----------	----------
Sturgeon	15	109,500	109,515	1,673	----------	1,200	1,200
Sucker, "mullet"	1,873,049	(1)	[1] 1,873,049	456,349	144,886	(1)	[1] 144,886
White bass	613	(1)	[1] 613	----------	----------	----------	----------
Whitefish, common	1,468,801	1,792,500	3,261,301	3,525,667	285,284	327,000	612,284
Whitefish, Menominee	150,299	(1)	[1] 150,299	276,186	33,177	(1)	[1] 33,177
Yellow perch	280,638	83,400	364,038	1,151,398	12,226	100	12,326
Yellow pike	898,955	374,300	1,273,255	51,713	32,920	108,700	141,620
Miscellaneous	2,400	691,300	693,700	772,203	157,401	65,700	223,101
Total	9,943,228	7,884,900	17,828,128	17,998,657	13,132,435	5,400,400	18,532,835

Species	Namakan Lake			Rainy Lake		
	United States	Canada	Total	United States	Canada	Total
	Pounds	*Pounds*	*Pounds*	*Pounds*	*Pounds*	*Pounds*
Chubs	132,484	9,212	141,696	49,474	143,988	193,462
Lake trout	----------	----------	----------	----------	91	91
Pike (jacks)	103,765	5,778	109,543	67,681	207,818	275,499
Sturgeon	----------	426	426	517	1,667	2,184
Sucker, "mullet"	3,917	(1)	[1] 3,917	10,246	(1)	[1] 10,246
Whitefish, common	6,264	10,252	16,516	34,918	25,583	60,501
Yellow perch	2,158	----------	2,158	6,936	18,923	25,859
Yellow pike	18,223	12,686	30,909	51,542	167,032	218,574
Miscellaneous	----------	----------	----------	----------	8,966	8,966
Total	266,811	38,354	305,165	221,314	574,068	795,382

Species	Lake of the Woods			Total all lakes		
	United States	Canada	Total	United States	Canada	Total
	Pounds	*Pounds*	*Pounds*	*Pounds*	*Pounds*	*Pounds*
Blue pike	----------	26,011	26,011	4,842,520	2,144,811	6,987,331
Burbot	76,423	(1)	[1] 76,423	583,671	(1)	[1] 583,671
Carp	8,210	2,938	11,148	1,241,684	396,038	1,637,722
Catfish and bullheads	22,607	129,114	151,721	502,939	300,714	803,653
Chubs	28,229	----------	28,229	5,031,235	800,600	5,831,835
Cisco	----------	----------	----------	618,028	1,273,300	1,891,328
Lake herring	----------	----------	----------	14,937,670	4,015,500	18,953,179
Lake trout	198	14,003	14,201	9,417,844	6,415,194	15,833,038
Pike (jacks)	220,472	488,672	709,144	531,025	964,368	1,495,393
Sauger pike	37,637	(1)	[1] 37,637	1,595,821	(1)	[1] 1,595,821
Sheepshead	----------	----------	----------	2,933,937	(1)	[1] 2,933,937
Sturgeon	386	704	1,090	39,799	337,097	366,896
Sucker, "mullet"	117,167	(1)	[1] 117,167	3,994,667	(1)	[1] 3,994,667
Tullibees	219,954	46,037	265,991	219,954	46,037	265,991
White bass	----------	----------	----------	285,792	(1)	[1] 285,792
Whitefish, common	20,057	180,552	200,609	6,431,253	4,392,187	10,823,440
Whitefish, Menominee	----------	----------	----------	459,662	(1)	[1] 459,662
Yellow perch	11,995	1,720	13,715	5,784,017	4,597,943	10,381,960
Yellow pike	544,012	531,199	1,075,211	2,925,625	1,409,317	4,334,942
Miscellaneous	1,658	168,970	170,628	1,001,315	2,452,336	3,453,651
Total	1,309,005	1,589,920	2,898,925	63,368,467	29,545,442	92,913,909

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[1] The Canadian catch of these species has been included under "Miscellaneous."

UNITED STATES

OPERATING UNITS

In conducting the survey of the operating units employed in the lake fisheries for 1928 an effort was made to determine the actual number of men, boats, and amount of gear employed in the fisheries. In making this determination only the average number of units of gear actually fishing simultaneously were counted, and those units being dried on shore, carried on the boats, or held in reserve were disregarded.

Fishermen.—There were 5,438 fishermen employed in the lake fisheries during 1928. Of this number, 72 per cent were engaged in the boat and shore fisheries and 28 per cent in the vessel fisheries. Thirty-two per cent was fished on Lake Michigan, 25 per cent on Lake Erie, 18 per cent on Lake Superior, 16 per cent on Lake Huron, 5 per cent on Lake Ontario, and 2 per cent on Lake of the Woods, Rainy Lake, and Namakan Lake.

Vessels.—During 1928 there were 134 steam vessels and 246 motor vessels engaged in the lake fisheries of the United States. Of this number 43 per cent of the steam vessels and 63 per cent of the motor vessels were engaged in fishing on Lake Michigan, 36 per cent of the steam vessels and 15 per cent of the motor vessels on Lake Erie, 11 per cent of the steam vessels and 12 per cent of the motor vessels on Lake Huron, 10 per cent of the steam vessels and 9 per cent of the motor vessels on Lake Superior, only 2 motor vessels were operated on Lake Ontario, and only 1 motor vessel on Lake of the Woods.

Boats.—There were 1,475 motor boats and 928 rowboats employed in the lake fisheries during 1928. Of this number 21 per cent of the motor boats and 18 per cent of the rowboats were engaged on Lake Michigan, 27 per cent of the motor boats and 18 per cent of the rowboats on Lake Erie, 21 per cent of the motor boats and 7 per cent of the rowboats on Lake Huron, 18 per cent of the motor boats and 49 per cent of the rowboats on Lake Superior, 8 per cent of the motor boats and 9 per cent of the rowboats on Lake Ontario, and 5 per cent of the motor boats and less than one-half of 1 per cent of the rowboats on Lake of the Woods, Rainy Lake, and Namakan Lake.

Gill nets.—During 1928 an average number of 99,348 gill nets were used in the lake fisheries. These nets had a total area, as fished, of 24,185,861 square yards, or more than 8 square miles. Of this amount 51 per cent were fished on Lake Michigan, 25 per cent on Lake Erie, 15 per cent on Lake Superior, 8 per cent on Lake Huron, 1 per cent on Lake Ontario, and less than one-half of 1 per cent on Lake of the Woods, Rainy Lake, and Namakan Lake.

Pound nets.—There were 1,722 pound nets used in the lake fisheries during 1928. Of this total 51 per cent were used on Lake Huron, 31 per cent on Lake Michigan, 10 per cent on Lake Superior, 4 per cent on Lake Erie, and 4 per cent on Lake of the Woods, Rainy Lake, and Namakan Lake.

Trap nets.—There were 6,221 trap nets fished during 1928. Of this number 69 per cent were fished on Lake Erie, 22 per cent on Lake Huron, 5 per cent on Lake Ontario, 4 per cent on Lake Michigan, and less than one-half of 1 per cent on Lake Superior.

Fyke nets.—There were 2,455 fyke nets fished during 1928. Of this number 48 per cent were fished on Lake Erie, 33 per cent on

Lake Michigan, 11 per cent on Lake Huron, 4 per cent on Lake Ontario, 3 per cent on Lake of the Woods, Rainy Lake, and Namakan Lake, and 1 per cent on Lake Superior.

Hooks.—There were 631,637 hooks fished on the Great Lakes during 1928. This includes 75 trolling hooks used on Lake Superior. Fifty-two per cent of the total number of hooks were fished on Lake Michigan, 32 per cent on Lake Superior, 10 per cent on Lake Huron, 3 per cent on Lake Erie, and 3 per cent on Lake Ontario.

Seines.—During 1928 there were 238 seines used in the lake fisheries. These had an aggregate length of 125,324 yards, and a combined area of 311,813 square yards. Of the total number 64 per cent were fished on Lake Erie, 21 per cent on Lake Huron, 11 per cent on Lake Michigan, 3 per cent on Lake Ontario, and 1 per cent on Lake Superior.

CATCH

Michigan, with frontage on Lakes Erie, Huron, Michigan, and Superior, ranked first in importance in the lake fisheries of the United States in 1928. The catch in the waters of this State amounted to 21,367,934 pounds, valued at $2,549,251. This is 34 per cent of the total catch of the Lakes, production in the United States, and 43 per cent of the total value. Ohio, with fisheries only on Lake Erie, ranked second with a catch of 15,890,016 pounds, valued at $1,134,770. This is 25 per cent of the total catch and 19 per cent of the total value. Wisconsin, with fisheries on Lakes Michigan and Superior, ranked third with a catch of 11,001,112 pounds, valued at $1,168,816. This represents 17 per cent of the total catch and 20 per cent of the total value. Minnesota was fourth, with a catch of 9,977,150 pounds, valued at $445,229. Minnesota had fisheries on Lake Superior, Lake of the Woods, Rainy Lake, and Namakan Lake, and its catch in these waters amounted to 16 per cent of the total quantity, and 8 per cent of the total value. The catch of fish in Pennsylvania, taken exclusively in Lake Erie, amounted to 1,957,820 pounds, valued at $253,422. This is 3 per cent of the total catch and 4 per cent of the total value. The catch of New York, which was taken from Lakes Ontario and Erie, amounted to 1,902,215 pounds and valued at $251,129. This is 3 per cent of the total catch and 4 per cent of the total value. The catch in Indiana amounted to 694,453 pounds, valued at $79,771. This is 1 per cent of the total catch, and 1 per cent of the total value. The catch in Illinois amounted to 577,767 pounds, valued at $78,396. This represents 1 per cent of the total catch, and 1 per cent of the total value.

Lake fisheries of the United States, 1928

OPERATING UNITS: BY STATES

Items	New York	Pennsylvania	Ohio	Michigan	Indiana
Fishermen:	*Number*	*Number*	*Number*	*Number*	*Number*
On vessels	97	172	200	682	26
On boats and shore	317	37	756	1,555	27
Total	414	209	956	2,237	53
Vessels:					
Steam	6	21	22	59	3
Net tonnage	163	448	566	1,092	69
Motor	15	11	13	130	3
Net tonnage	102	122	185	1,116	33
Motor boats	126	12	339	665	11
Other boats	115	3	100	232	8

Lake fisheries of the United States, 1928—Continued

OPERATING UNITS: BY STATES—Continued

Itemg	New York	Pennsylvania	Ohio	Michigan	Indiana
Apparatus:	*Number*	*Number*	*Number*	*Number*	*Number*
Gill nets	6, 206	10, 509	9, 201	39, 763	1, 349
Square yards	1, 413, 234	2, 092, 667	1, 202, 265	10, 447, 486	361, 514
Pound nets	----------	54	23	1, 340	8
Trap nets	309	28	4, 133	1, 750	----------
Fyke nets	100	----------	873	628	----------
Hooks	29, 510	----------	2, 300	381, 970	7, 200
Trolling hooks	----------	----------	----------	75	----------
Seines	6	----------	128	77	----------
Length, yards	368	----------	80, 995	33, 216	----------
Square yards	1, 204	----------	197, 755	84, 460	----------

Items	Illinois	Wisconsin	Minnesota	Total
Fishermen:	*Number*	*Number*	*Number*	*Number*
On vessels	32	320	2	1, 531
On boats and shore	24	624	567	3, 907
Total	56	944	569	5, 438
Vessels:				
Steam	1	22	----------	134
Net tonnage	14	601	----------	2, 953
Motor	7	66	1	246
Net tonnage	80	966	7	2, 611
Motor boats	9	177	136	1, 475
Other boats	4	79	387	928
Apparatus:				
Gill nets	1, 994	24, 087	6, 239	99, 348
Square yards	434, 728	6, 160, 411	2, 073, 556	24, 185, 861
Pound nets	1	221	75	1, 722
Trap nets	----------	1	----------	6, 221
Fyke nets	302	468	84	2, 455
Hooks	----------	210, 342	240	631, 562
Trolling hooks	----------	----------	----------	75
Seines	----------	27	----------	238
Length, yards	----------	10, 745	----------	125, 324
Square yards	----------	28, 394	----------	311, 813

OPERATING UNITS: BY LAKES

Items	Lake Ontario	Lake Erie	Lake Huron	Lake Michigan	Lake Superior	Lake of the Woods, Rainy Lake, and Namakan Lake	Total
Fishermen:	*Number*	*Number*	*Number*	*Number*	*Number*	*Number*	*Number*
On vessels	6	463	187	730	143	2	1, 531
On boats and shore	247	965	708	1, 039	844	104	3, 907
Total	253	1, 428	895	1, 769	987	106	5, 438
Vessels:							
Steam	----------	49	15	57	13	----------	134
Net tonnage	----------	1, 177	340	1, 126	310	----------	2, 953
Motor	2	37	30	155	21	1	246
Net tonnage	10	399	275	1, 728	192	7	2, 611
Motor boats	110	394	312	312	270	77	1, 475
Other boats	79	162	69	165	450	3	928
Apparatus:							
Gill nets	1, 074	24, 842	8, 280	50, 132	14, 747	273	99, 348
Square yards	262, 615	4, 445, 551	2, 750, 127	12, 053, 884	4, 594, 518	79, 166	24, 185, 861
Pound nets	----------	77	871	524	175	75	1, 722
Trap nets	299	4, 311	1, 362	225	24	----------	6, 221
Fyke nets	100	1, 179	259	810	23	84	2, 455
Hooks	16, 100	15, 910	66, 950	329, 915	202, 687	----------	631, 562
Trolling hooks	----------	----------	----------	----------	75	----------	75
Seines	6	154	49	27	2	----------	238
Length, yards	368	93, 416	19, 963	10, 745	832	----------	125, 324
Square yards	1, 204	230, 777	49, 658	28, 394	1, 780	----------	311, 813

Lake fisheries of the United States, 1928—Continued

OPERATING UNITS: BY STATES AND LAKES

Items	New York			Pennsylvania, Lake Erie	Ohio, Lake Erie
	Lake Ontario	Lake Erie	Total		
	Number	*Number*	*Number*	*Number*	*Number*
Fishermen:					
On vessels	6	91	97	172	200
On boats and shore	247	70	317	37	756
Total	253	161	414	209	956
Vessels:					
Steam		6	6	21	22
Net tons		163	163	448	566
Motor	2	13	15	11	13
Net tons	10	92	102	122	185
Total vessels	2	19	21	32	35
Total net tonnage	10	255	265	570	751
Boats:					
Motor	110	16	126	12	339
Other	79	36	115	3	100
"Shoal" gill nets, 3–3 1/16 inches: [1]					
Fished by vessels	20	1, 707	1, 727	6, 904	7, 858
Square yards	1, 778	232, 497	234, 275	1, 099, 558	873, 004
Fished by boats	393	200	593	117	205
Square yards	72, 944	26, 945	99, 889	17, 094	20, 327
Total	413	1, 907	2, 320	7, 021	8, 063
Square yards	74, 722	259, 442	334, 164	1, 116, 652	893, 331
"Shoal" gill nets, 4½–6 inches: [2]					
Fished by vessels	110	2, 056	2, 166	696	80
Square yards	20, 889	488, 002	508, 891	92, 800	19, 200
Fished by boats	495	48	543		
Square yards	109, 958	7, 680	117, 638		
Total	605	2, 104	2, 709	696	80
Square yards	130, 847	495, 682	626, 529	92, 800	19, 200
"Bull" gill nets, 3–3 1/16 inches: [1]					
Fished by vessels		728	728	1, 944	868
Square yards		303, 445	303, 445	687, 215	255, 289
Fished by boats		32	32		
Square yards		12, 288	12, 288		
Total		760	760	1, 944	868
Square yards		315, 733	315, 733	687, 215	255, 289
"Bull" gill nets, 4½–5½ inches: [2]					
Fished by vessels		232	232	848	98
Square yards		51, 555	51, 555	196, 000	27, 111
Fished by boats		48	48		
Square yards		10, 240	10, 240		
Total		280	280	848	98
Square yards		61, 795	61, 795	196, 000	27, 111
Sturgeon gill nets, 10–12 inches: [3]					
Fished by boats	56	81	137		
Square yards	57, 046	17, 967	750, 013		
Bar gill nets, 5 inches: [4]					
Fished by boats					92
Square yards					7, 334
Pound nets, fished by boats [5]				54	23

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[1] 3-inch mesh is permitted by New York only, on both Lake Erie and Lake Ontario for both shoal and bull nets and can take any species except whitefish, lake trout, and sturgeon. Pennsylvania and Ohio prescribe a 3 1/16-inch mesh for both shoal and bull nets.

[2] Used principally for taking whitefish, trout, and suckers. No 4½-inch is permitted on Lakes Ontario and Erie, except in the State of Michigan, where none are used.

[3] Used principally for taking sturgeon.

[4] Used principally for taking carp.

[5] Used for taking miscellaneous fish

Lake fisheries of the United States, 1928—Continued

OPERATING UNITS: By States and lakes—Continued

Items	New York			Pennsylvania, Lake Erie	Ohio, Lake Erie
	Lake Ontario	Lake Erie	Total		
	Number	*Number*	*Number*	*Number*	*Number*
Trap nets: [5]					
Fished by vessels	1		1		70
Fished by boats	298	10	308	28	4, 063
Total	299	10	309	28	4, 133
Fyke nets: [5]					
Fished by vessels					200
Fished by boats	100		100		673
Total	100		100		873
Hooks, fished by boats [6]					2, 300
Sturgeon hooks, fished by boats [7]	16, 100	13, 410	29, 510		
Seines, fished by boats [8]	6		6		128
Length, yards	368		368		80, 995
Square yards	1, 204		1, 204		197, 755

Items	Michigan					Indiana, Lake Michigan
	Lake Erie	Lake Huron	Lake Michigan	Lake Superior	Total	
	Number	*Number*	*Number*	*Number*	*Number*	*Number*
Fishermen:						
On vessels		187	372	123	682	26
On boats and shore	102	708	479	266	1, 555	27
Total	102	895	851	389	2, 237	53
Vessels:						
Steam		15	32	12	59	3
Net tons		340	475	277	1, 092	69
Motor		30	83	17	130	3
Net tons		275	713	128	1, 116	33
Total vessels		45	115	29	189	6
Total net tonnage		615	1, 188	405	2, 208	102
Boats:						
Motor	27	312	165	161	665	11
Other	23	69	103	37	232	8
Gill nets, 2⅛-2⅞ inches: [9]						
Fished by vessels		1, 728	4, 301	210	6, 239	587
Square yards		580, 110	978, 085	47, 312	1, 605, 507	149, 980
Fished by boats		466	2, 183	332	2, 981	168
Square yards		88, 053	243, 453	94, 096	425, 602	29, 167
Total		2, 194	6, 484	542	9, 220	755
Square yards		668, 163	1, 221, 538	141, 408	2, 031, 109	179, 147

[5] Used for taking miscellaneous fish.

[6] Used principally for taking catfish.

[7] Used principally for taking sturgeon.

[8] Used principally for taking carp, catfish, bullheads, and burbot.

[9] Used principally for taking chubs, herring, perch, bluefin, and Menominees. Michigan prescribes 2¾-inch to 2⅞-inch, and Indiana 2½-inch to 2⅞-inch for chubs and herring. Indiana prescribes 2⅜-inch, while Michigan prescribes 2¾-inch to 2⅞-inch, except that 2½-inch may be used from November 1 to December 17 under certain restrictions as to depth, and 2¼-inch from January 1 to April 1 under the ice when bottom of net is not less than 20 feet from bottom of lake or bay. Two and three-quarters inch mesh is permitted by Wisconsin in Green Bay and in Lake Superior. In Green Bay 2⅛-inch mesh may be used for herring, chubs, perch, and other rough fish from December 1 until the ice goes out, and is to be fished under and hung to ice. In Lake Michigan, Wisconsin prescribes 2⅝-inch for minimum mesh. In Minnesota 2⅜-inch may be used for herring but 2⅝-inch for chubs.

Lake fisheries of the United States, 1928—Continued

OPERATING UNITS: BY STATES AND LAKES—Continued

Items	Michigan					Indiana, Lake Michigan
	Lake Erie	Lake Huron	Lake Michigan	Lake Superior	Total	
	Number	*Number*	*Number*	*Number*	*Number*	*Number*
Gill nets, 4-6 inches: [10]						
Fished by vessels	--------	3,844	13,924	3,127	20,895	552
Square yards	--------	1,436,463	3,595,418	1,060,650	6,092,531	171,867
Fished by boats	--------	2,242	4,752	2,654	9,648	42
Square yards	--------	645,501	966,924	711,421	2,323,846	10,500
Total	--------	6,086	18,676	5,781	30,543	594
Square yards	--------	2,081,964	4,562,342	1,772,071	8,416,377	182,367
Pound nets: [5]						
Fished by vessels	--------	39	71	38	148	--------
Fished by boats	--------	832	279	81	1,192	8
Total	--------	871	350	119	1,340	8
Trap nets: [5]						
Fished by vessels	--------	187	134	6	327	--------
Fished by boats	140	1,175	91	17	1,423	--------
Total	140	1,362	225	23	1,750	--------
Fyke nets: [5]						
Fished by vessels	--------	10	--------	--------	10	--------
Fished by boats	306	249	61	2	618	--------
Total	306	259	61	2	628	--------
Hooks: [11]						
Fished by vessels	--------	48,150	112,200	99,100	259,450	7,200
Fished by boats	200	18,800	10,840	92,680	122,520	--------
Total	200	66,950	123,040	191,780	381,970	7,200
Trolling hooks, fished by boats [11]	--------	--------	--------	75	75	--------
Seines, fished by boats [12]	26	49	--------	2	77	--------
Length, yards	12,421	19,963	--------	832	33,216	--------
Square yards	33,022	49,658	--------	1,780	84,460	--------

Items	Illinois, Lake Michigan	Wisconsin			Minnesota		
		Lake Michigan	Lake Superior	Total	Lake Superior	Lake of the Woods, Rainy Lake, and Namakan Lake	Total
	Number	*Number*	*Number*	*Number*	*Number*	*Number*	*Number*
Fishermen:							
On vessels	32	300	20	320	--------	2	2
On boats and shore	24	509	115	624	463	104	567
Total	56	809	135	944	463	106	569
Vessels:							
Steam	1	21	1	22	--------	--------	--------
Net tons	14	568	33	601	--------	--------	--------
Motor	7	62	4	66	--------	1	1
Net tons	80	902	64	966	--------	7	7
Total vessels	8	83	5	88	--------	1	1
Total net tonnage	94	1,470	97	1,567	--------	7	7

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[5] Used for taking miscellaneous fish.

[10] Used principally for taking whitefish, trout, pike, and suckers. Both Michigan and Indiana prescribe 4½-inch mesh for whitefish and trout. Wisconsin is the only State that permits 4-inch mesh for these species.

[11] Used principally for taking trout.

[12] Used principally for taking carp, pike, perch, and suckers.

Lake fisheries of the United States, 1928—Continued

OPERATING UNITS: BY STATES AND LAKES—Continued

Items	Illinois, Lake Michigan	Wisconsin			Minnesota		
		Lake Michigan	Lake Superior	Total	Lake Superior	Lake of the Woods, Rainy Lake, and Namakan Lake	Total
Boats:	*Number*	*Number*	*Number*	*Number*	*Number*	*Number*	*Number*
Motor	9	127	50	177	59	77	136
Other	4	50	29	79	384	3	387
Gill nets, 2⅛–2⅞ inches: [9]							
Fished by vessels	618	6,010	152	6,162	----------	----------	----------
Square yards	120,225	1,859,601	50,867	1,910,468	----------	----------	----------
Fished by boats	441	5,076	419	5,495	4,622	----------	4,622
Square yards	68,349	708,769	94,872	803,641	1,491,286	----------	1,491,286
Total	1,059	11,086	571	11,657	4,622	----------	4,622
Square yards	188,574	2,568,370	145,739	2,714,109	1,491,286	----------	1,491,286
Gill nets, 4-6 inches: [10]							
Fished by vessels	723	5,083	158	5,241	----------	4	4
Square yards	204,848	2,182,402	53,400	2,235,802	----------	1,334	1,334
Fished by boats	212	5,460	1,729	7,189	1,344	269	1,613
Square yards	41,306	722,990	487,510	1,210,500	503,104	77,832	580,936
Total	935	10,543	1,887	12,430	1,344	273	1,617
Square yards	246,154	2,905,392	540,910	3,446,302	503,104	79,166	582,270
Pound nets: [5]							
Fished by vessels	----------	4	----------	4	----------	----------	----------
Fished by boats	1	161	56	217	----------	75	75
Total	1	165	56	221	----------	75	75
Trap nets: [5]							
Fished by boats	----------	----------	1	1	----------	----------	----------
Fyke nets: [5]							
Fished by vessels	105	55	4	59	----------	----------	----------
Fished by boats	197	392	17	409	----------	84	84
Total	302	447	21	468	----------	84	84
Hooks: [11]							
Fished by vessels	----------	147,975	----------	147,975	----------	----------	----------
Fished by boats	----------	51,700	10,667	62,367	240	----------	240
Total	----------	199,675	10,667	210,342	240	----------	240
Seines, fished by boats [12]	----------	27	----------	27	----------	----------	----------
Length, yards	----------	10,745	----------	10,745	----------	----------	----------
Square yards	----------	28,394	----------	28,394	----------	----------	----------

[5] Used for taking miscellaneous fish.

[9] Used principally for taking chubs, herring, perch, bluefin, and Menominees. Michigan prescribes 2¾-inch to 2⅞-inch, and Indiana 2½-inch to 2⅞-inch for chubs and herring. Indiana prescribes 2⅜-inch, while Michigan prescribes 2¾-inch to 2⅞-inch, except that 2½-inch may be used from November 1 to December 17 under certain restrictions as to depth, and 2¼-inch from January 1 to April 1 under the ice when bottom of net is not less than 20 feet from bottom of lake or bay. Two and three-quarters inch mesh is permitted by Wisconsin in Green Bay and in Lake Superior. In Green Bay 2⅛-inch mesh may be used for herring, chubs, perch, and other rough fish from December 1 until the ice goes out, and is to be fished under and hung to ice. In Lake Michigan, Wisconsin prescribes 2⅝-inch for minimum mesh. In Minnesota 2⅜-inch may be used for herring but 2⅝-inch for chubs.

[10] Used principally for taking whitefish, trout, pike, and suckers. Both Michigan and Indiana prescribe 4½-inch mesh for whitefish and trout. Wisconsin is the only State that permits 4-inch mesh for these species.

[11] Used principally for taking trout.

[12] Used principally for taking carp, pike, perch, and suckers.

Lake fisheries of the United States, 1928—Continued

OPERATING UNITS OF LAKE ONTARIO: BY GEAR

Items	Gill nets	Trap nets	Fyke nets	Sturgeon hooks	Seines	Total, exclusive of duplication
	Number	*Number*	*Number*	*Number*	*Number*	*Number*
Fishermen:						
On vessels	6	2				6
On boats and shore	99	100	16	42	14	247
Total	105	102	16	42	14	253
Vessels, motor, 5 to 10 tons	2	1				2
Net tonnage	10	5				10
Boats:						
Motor	51	48	7	14	2	110
Other	16	31	8	25	5	79
Apparatus:						
Number	1,074	299	100	16,100	6	
Lengths, yards					368	
Square yards	262,615				1,204	

OPERATING UNITS OF LAKE ERIE: BY GEAR

Items	Gill nets	Pound nets	Trap nets	Fyke nets	Hooks	Seines	Total, exclusive of duplication
	Number	*Number*	*Number*	*Number*	*Number*	*Number*	*Number*
Fishermen:							
On vessels	451		12	12			463
On boats and shore	62	31	463	84	57	332	965
Total	513	31	475	96	57	332	1,428
Vessels:							
Steam—							
5 to 10 tons	2						2
11 to 20 tons	12						12
21 to 30 tons	21		1	1			22
31 to 40 tons	12						12
61 to 70 tons	1						1
Total	48		1	1			49
Net tonnage	1,155		22	22			1,177
Motor—							
5 to 10 tons	27						27
11 to 20 tons	6						6
21 to 30 tons	2						2
31 to 40 tons	2						2
Total	37						37
Net tonnage	399						399
Total vessels	85		1	1			86
Total net tonnage	1,554		22	22			1,576
Boats:							
Motor	24	11	231	39	2	116	394
Other	9		10	26	53	75	162
Apparatus:							
Number	24,842	77	4,311	1,179	15,910	154	
Length, yards						93,416	
Square yards	4,445,551					230,777	

Lake fisheries of the United States, 1928—Continued

OPERATING UNITS OF LAKE HURON: BY GEAR

Items	Gill nets	Pound nets	Trap nets	Fyke nets	Hooks	Seines	Total, exclusive of duplication
Fishermen:	*Number*	*Number*	*Number*	*Number*	*Number*	*Number*	*Number*
On vessels	157	23	34	4	43	------	187
On boats and shore	216	314	186	35	15	119	708
Total	373	337	220	39	58	119	895
Vessels:							
Steam—							
5 to 10 tons	1	1	1	------	1	------	2
11 to 20 tons	5	2	1	------	1	------	6
21 to 30 tons	3	------	------	------	2	------	3
31 to 40 tons	3	------	------	------	1	------	3
51 to 60 tons	1	------	------	------	------	------	1
Total	13	3	2	------	5	------	15
Net tonnage	320	32	20	------	105	------	340
Motor—							
5 to 10 tons	17	5	6	1	2	------	22
11 to 20 tons	6	------	2	------	1	------	8
Total	23	5	8	1	3	------	30
Net tonnage	207	37	79	8	32	------	275
Total vessels	36	8	10	1	8	------	45
Total net tonnage	527	69	99	8	137	------	615
Boats:							
Motor	100	142	83	19	9	39	312
Other	27	15	7	5	------	20	69
Apparatus:							
Number	8, 280	871	1, 362	259	66, 950	49	------
Length, yards	------	------	------	------	------	19, 963	------
Square yards	2, 750, 127	------	------	------	------	49, 658	------

OPERATING UNITS OF LAKE MICHIGAN: BY GEAR

Items	Gill nets	Pound nets	Trap nets	Fyke nets	Hooks	Seines	Total, exclusive of duplication
Fishermen:	*Number*	*Number*	*Number*	*Number*	*Number*	*Number*	*Number*
On vessels	685	65	14	25	199	------	730
On boats and shore	788	306	37	116	54	60	1, 039
Total	1, 473	371	51	141	253	60	1, 769
Vessels:							
Steam—							
5 to 10 tons	9	------	------	------	2	------	9
11 to 20 tons	24	1	------	------	8	------	25
21 to 30 tons	11	------	------	------	4	------	13
31 to 40 tons	6	------	------	------	5	------	7
41 to 50 tons	1	------	------	------	1	------	2
51 to 60 tons	1	------	------	------	------	------	1
Total	52	1	------	------	20	------	57
Net tonnage	983	15	------	------	469	------	1, 126
Motor—							
5 to 10 tons	96	20	6	8	21	------	102
11 to 20 tons	34	2	1	1	10	------	36
21 to 30 tons	11	------	------	------	2	------	11
31 to 40 tons	5	------	------	------	1	------	5
41 to 50 tons	1	------	------	------	------	------	1
Total	147	22	7	9	34	------	155
Net tonnage	1, 659	164	52	76	366	------	1, 728
Total vessels	199	23	7	9	54	------	212
Total net tonnage	2, 642	179	52	76	835	------	2, 854
Boats:							
Motor	236	119	12	47	19	9	312
Other	119	31	9	21	7	16	165
Apparatus:							
Number	50, 132	524	225	810	329, 915	27	------
Length, yards	------	------	------	------	------	10, 745	------
Square yards	12, 053, 884	------	------	------	------	28, 394	------

Lake fisheries of the United States, 1928—Continued

OPERATING UNITS OF LAKE SUPERIOR: BY GEAR

Items	Gill nets	Pound nets	Trap nets	Fyke nets	Hooks	Trolling hooks	Seines	Total, exclusive of duplication
	Number	*Number*	*Number*	*Number*	*Number*	*Number*	*Number*	*Number*
Fishermen:								
On vessels	137	16	3	2	78	--------	--------	143
On boats and shore	780	61	8	13	136	14	4	844
Total	917	77	11	15	214	14	4	987
Vessels:								
Steam—								
5 to 10 tons	2	1	--------	--------	3	--------	--------	3
11 to 20 tons	3	--------	--------	--------	2	--------	--------	3
21 to 30 tons	3	--------	--------	--------	2	--------	--------	3
31 to 40 tons	2	--------	--------	--------	1	--------	--------	2
41 to 50 tons	1	--------	--------	--------	--------	--------	--------	1
51 to 60 tons	1	--------	--------	--------	--------	--------	--------	1
Total	12	1	--------	--------	8	--------	--------	13
Net tonnage	303	10	--------	--------	138	--------	--------	310
Motor—								
5 to 10 tons	17	4	1	1	9	--------	--------	18
11 to 20 tons	1	--------	--------	--------	1	--------	--------	1
21 to 30 tons	2	--------	--------	--------	--------	--------	--------	2
Total	20	4	1	1	10	--------	--------	21
Net tonnage	186	32	9	6	74	--------	--------	192
Total vessels	32	5	1	1	18	--------	--------	34
Total net tonnage	489	42	9	6	212	--------	--------	502
Boats:								
Motor	226	31	2	6	83	10	--------	270
Other	439	13	5	4	4	--------	2	450
Apparatus:								
Number	14,747	175	24	23	202,687	75	2	--------
Length, yards	--------	--------	--------	--------	--------	--------	832	--------
Square yards	4,594,518	--------	--------	--------	--------	--------	1,780	--------

OPERATING UNITS OF LAKE OF THE WOODS, RAINY LAKE, AND NAMAKAN LAKE: BY GEAR

Items	Gill nets	Pound nets	Fyke nets	Total, exclusive of duplication
	Number	*Number*	*Number*	*Number*
Fishermen:				
On vessels	2	--------	--------	2
On boats and shore	86	42	24	104
Total	88	42	24	106
Vessels:				
Motor	1	--------	--------	1
Net tonnage	7	--------	--------	7
Boats:				
Motor	73	28	23	77
Other	3	1	1	3
Apparatus:				
Number	273	75	84	--------
Square yards	79,166	--------	--------	--------

Lake fisheries of the United States, 1928—Continued

CATCH: BY STATES

Species	New York		Pennsylvania		Ohio		Michigan	
	Pounds	*Value*	*Pounds*	*Value*	*Pounds*	*Value*	*Pounds*	*Value*
Blue pike	472,500	$55,779	627,283	$69,715	3,742,737	$299,419		
Burbot	70,569	4,621	4,194	65	400,191	8,003	14,510	$290
Carp	19,555	1,422	7,969	425	341,106	17,055	864,844	40,359
Catfish and bullheads	41,014	7,915	5,914	787	228,293	19,933	205,111	17,818
Chubs							1,371,461	104,364
Cisco	238,446	32,733	356,070	45,162	23,508	2,986	4	1
Lake herring	342,187	35,428					3,976,915	170,594
Lake trout	45,951	7,014	73	16			5,702,174	903,632
Pike (jacks)							33,809	3,074
Sauger pike					1,491,867	122,333	66,317	7,469
Sheepshead			33,229	1,994	2,854,640	77,075	46,068	1,986
Sturgeon	26,411	12,755	762	381	35	14	1,688	675
Sucker "mullet"	107,049	8,506	30,200	1,169	1,208,119	56,782	2,515,999	121,921
White bass	352	35	29,653	1,483	255,174	17,862	613	31
Whitefish, common	271,711	59,636	402,168	101,011	415,458	83,092	4,653,475	919,305
Whitefish, Menominee							436,832	51,885
Yellow perch	175,168	13,491	447,140	28,603	3,678,046	246,429	472,170	45,540
Yellow pike	29,440	6,940	13,034	2,598	1,245,267	183,676	990,347	159,113
Miscellaneous	61,862	4,854	131	13	5,575	111	15,597	1,194
Total	1,902,215	251,129	1,957,820	253,422	15,890,016	1,134,770	21,367,934	2,549,251

Species	Indiana		Illinois		Wisconsin		Minnesota		Total	
	Lbs.	*Value*	*Lbs.*	*Value*	*Lbs.*	*Value*	*Lbs.*	*Value*	*Lbs.*	*Value*
Blue pike									4,842,520	$424,913
Burbot	17,784	$1,277					76,423	$1,012	583,671	15,268
Carp							8,210	493	1,241,684	59,754
Catfish and bullheads							22,607	2,261	502,939	48,714
Chubs	104,237	12,841	276,795	$33,215	2,754,952	$318,469	523,790	28,790	5,031,235	497,679
Cisco									618,028	80,882
Lake herring	300,917	16,875	101,760	6,106	2,764,316	91,954	7,451,584	221,346	14,937,679	542,303
Lake trout	186,608	37,689	171,612	36,039	2,920,651	533,597	390,775	50,435	9,417,844	1,568,422
Pike (jacks)					105,298	5,866	391,918	19,211	531,025	28,151
Sauger pike							37,637	2,675	1,595,821	132,477
Sheepshead									2,933,937	81,055
Sturgeon							903	356	29,799	14,181
Sucker "mullet"	720	72					132,580	2,662	3,994,667	191,112
Tullibees							219,954	11,197	219,954	11,197
White bass									285,792	19,411
Whitefish, common	15,454	3,328			608,552	106,247	64,435	9,029	6,431,253	1,281,648
Whitefish, Menominee					3,020	453	19,810	1,451	459,662	53,789
Yellow perch	60,733	6,089	27,600	3,036	902,071	58,397	21,089	2,310	5,784,017	403,895
Yellow pike					33,760	5,781	613,777	91,819	2,925,625	449,927
Miscellaneous	8,000	1,600			908,492	48,052	1,658	182	1,001,315	56,006
Total	694,453	79,771	577,767	78,396	11,001,112	1,168,816	9,977,150	445,229	63,368,467	5,960,784

CATCH: BY LAKES

Species	Lake Ontario		Lake Erie			
	New York		New York		Pennsylvania	
	Pounds	*Value*	*Pounds*	*Value*	*Pounds*	*Value*
Blue pike	23,728	$2,906	448,772	$52,873	627,283	$69,715
Burbot	64,232	4,241	6,337	380	4,194	65
Carp	18,365	1,307	1,190	115	7,969	425
Catfish and bullheads	40,729	7,884	285	31	5,914	787
Cisco			238,446	32,733	356,070	45,162
Lake herring	342,187	35,428				
Lake trout	43,223	6,644	2,728	370	73	16
Sheepshead					33,229	1,994
Sturgeon	19,595	9,482	6,816	3,273	762	381
Sucker "mullet"	70,815	6,134	36,234	2,372	30,200	1,169
White bass			352	35	29,653	1,483
Whitefish, common	115,793	20,896	155,918	38,740	402,168	101,011
Yellow perch	44,679	3,803	130,489	9,688	447,140	28,603
Yellow pike	19,840	4,831	9,600	2,109	13,034	2,598
Miscellaneous	50,661	4,371	11,201	483	131	13
Total	853,847	107,927	1,048,368	143,202	1,957,820	253,422

Lake fisheries of the United States, 1928—Continued

CATCH: BY LAKES—Continued

Species	Lake Erie					
	Ohio		Michigan		Total	
	Pounds	*Value*	*Pounds*	*Value*	*Pounds*	*Value*
Blue pike	3, 742, 737	$299, 419			4, 818, 792	$422, 007
Burbot	400, 191	8, 003			410, 722	8, 448
Carp	341, 106	17, 055	568, 385	$28, 419	918, 650	46, 014
Catfish and bullheads	228, 293	19, 933	32, 222	2, 256	266, 714	23, 007
Cisco	23, 508	2, 986	4	1	618, 028	80, 882
Lake trout					2, 801	386
Pike (jacks)			647	45	647	45
Sauger pike	1, 491, 867	122, 333	10, 458	837	1, 502, 325	123, 170
Sheepshead	2, 854, 640	77, 075	31, 724	1, 269	2, 919, 593	80, 338
Sturgeon	35	14			7, 613	3, 668
Sucker "mullet"	1, 208, 119	56, 782	43, 685	2, 184	1, 318, 238	62, 507
White bass	255, 174	17, 862			285, 179	19, 380
Whitefish, common	415, 458	83, 092	925	176	974, 469	223, 019
Yellow perch	3, 678, 046	246, 429	18, 312	1, 227	4, 273, 987	285, 947
Yellow pike	1, 245, 267	183, 676	40, 519	6, 078	1, 308, 420	194, 461
Miscellaneous	5, 575	111	85	2	16, 992	609
Total	15, 890, 016	1, 134, 770	746, 966	42, 494	19, 643, 170	1, 573, 888

Species	Lake Huron		Lake Michigan			
	Michigan		Michigan		Indiana	
	Pounds	*Value*	*Pounds*	*Value*	*Pounds*	*Value*
Burbot	2, 088	$42	12, 422	$248	17, 784	$1, 277
Carp	282, 592	11, 304	11, 082	497		
Catfish and bullheads	171, 042	15, 394	1, 634	147		
Chubs	427, 250	34, 180	646, 798	51, 744	104, 237	12, 841
Lake herring	2, 709, 041	121, 907	532, 535	26, 627	300, 917	16, 875
Lake trout	1, 597, 851	255, 656	1, 831, 127	329, 729	186, 608	37, 689
Pike (jacks)	19, 759	1, 778	8, 986	809		
Sauger pike	46, 093	5, 531	7, 994	959		
Sheepshead	12, 742	637	1, 602	80		
Sturgeon	15	6	1, 673	669		
Sucker "mullet"	1, 873, 049	93, 652	455, 629	22, 781	720	72
White bass	613	31				
Whitefish, common	1, 468, 801	293, 760	2, 956, 146	591, 229	15, 454	3, 328
Whitefish, Menominee	150, 299	18, 036	273, 166	32, 780		
Yellow perch	280, 638	28, 064	162, 414	14, 617	60, 733	6, 089
Yellow pike	898, 955	143, 833	31, 832	5, 411		
Miscellaneous	2, 400	143	6, 485	519	8, 000	1, 600
Total	9, 943, 228	1, 023, 954	6, 941, 525	1, 078, 846	694, 453	79, 771

Species	Lake Michigan					
	Illinois		Wisconsin		Total	
	Pounds	*Value*	*Pounds*	*Value*	*Pounds*	*Value*
Burbot					30, 206	$1, 525
Carp					11, 082	497
Catfish and bullheads					1, 634	147
Chubs	276, 795	$33, 215	2, 724, 160	$316, 669	3, 751, 990	414, 469
Lake herring	101, 760	6, 106	2, 097, 546	77, 814	3, 032, 758	127, 422
Lake trout	171, 612	36, 039	2, 629, 376	492, 099	4, 818, 723	895, 556
Pike (jacks)			98, 493	5, 144	107, 479	5, 953
Sauger pike					7, 994	959
Sheepshead					1, 602	80
Sturgeon					1, 673	669
Sucker "mullet"					456, 349	22, 853
Whitefish, common			554, 067	98, 665	3, 525, 667	693, 222
Whitefish, Menominee			3, 020	453	276, 186	33, 233
Yellow perch	27, 600	3, 036	900, 651	58, 184	1, 151, 398	81, 926
Yellow pike			19, 881	2, 978	51, 713	8, 389
Miscellaneous			757, 718	43, 492	772, 203	45, 611
Total	577, 767	78, 396	9, 784, 912	1, 095, 498	17, 998, 657	2, 332, 511

Lake fisheries of the United States, 1928—Continued

CATCH: BY LAKES—Continued

Species	Lake Superior					
	Michigan		Wisconsin		Minnesota	
	Pounds	*Value*	*Pounds*	*Value*	*Pounds*	*Value*
Carp	2, 785	$139	-----	-----	-----	-----
Catfish and bullheads	213	21	-----	-----	-----	-----
Chubs	297, 413	18, 440	30, 792	$1, 800	313, 603	$21, 625
Lake herring	735, 339	22, 060	666, 770	14, 140	7, 451. 584	221, 346
Lake trout	2, 273, 196	318, 247	291, 275	41, 498	390, 577	50, 407
Pike (jacks)	4, 417	442	6, 805	722	-----	-----
Sauger pike	1, 772	142	-----	-----	-----	-----
Sucker "mullet"	143, 636	3, 304	-----	-----	1, 250	28
Whitefish, common	227, 603	34, 140	54, 485	7, 582	3, 196	616
Whitefish, Menominee	13, 367	1, 069	-----	-----	19, 810	1, 451
Yellow perch	10, 806	1, 632	1, 420	213	-----	-----
Yellow pike	19, 041	3, 791	13, 879	2, 803	-----	-----
Miscellaneous	6, 627	530	150, 774	4, 560	-----	-----
Total	3, 736, 215	403, 957	1, 216, 200	73, 318	8, 180, 020	295, 473

Species	Lake Superior		Lake of the Woods, Rainy Lake, and Namakan Lake		Total, all lakes	
	Total		Minnesota			
	Pounds	*Value*	*Pounds*	*Value*	*Pounds*	*Value*
Blue pike	-----	-----	-----	-----	4, 842, 520	$424, 913
Burbot	-----	-----	76, 423	$1, 012	583, 671	15, 268
Carp	2, 785	$139	8, 210	493	1, 241, 684	59, 754
Catfish and bullheads	213	21	22, 607	2, 261	502, 939	48, 714
Chubs	641, 808	41, 865	210, 187	7, 165	5, 031, 235	497, 679
Cisco	-----	-----	-----	-----	618, 028	80, 882
Lake herring	8, 853, 693	257, 546	-----	-----	14, 937, 679	542, 303
Lake trout	2, 955, 048	410, 152	198	28	9, 417, 844	1, 568, 422
Pike (jacks)	11, 222	1, 164	391, 918	19, 211	531, 025	28, 151
Sauger pike	1, 772	142	37, 637	2, 675	1, 595, 821	132, 477
Sheepshead	-----	-----	-----	-----	2, 933, 937	81, 055
Sturgeon	-----	-----	903	356	29, 799	14, 181
Sucker "mullet"	144, 886	3, 332	131, 330	2, 634	3, 994, 667	191, 112
Tullibees	-----	-----	219, 954	11, 197	219, 954	11, 197
White bass	-----	-----	-----	-----	285, 792	19, 411
Whitefish, common	285, 284	42, 338	61, 239	8, 413	6, 431, 253	1, 281, 648
Whitefish, Menominee	33, 177	2, 520	-----	-----	459, 662	53, 789
Yellow perch	12, 226	1, 845	21, 089	2, 310	5, 784, 017	403, 895
Yellow pike	32, 920	6, 594	613, 777	91, 819	2, 925, 625	449, 927
Miscellaneous	157, 401	5, 090	1, 658	182	1, 001, 315	56, 006
Total	13, 132, 435	772, 748	1, 797, 130	149, 756	63, 368, 467	5, 960, 784

HISTORICAL REVIEW

Statistics of the catch in the United States waters of the Great Lakes are available for various years from 1885 to 1908, inclusive, and for all the years from 1913 to 1928, inclusive. During these periods the catch has been marked by many fluctuations, reaching a peak in 1890 when the catch amounted to 113,899,000 pounds and registered the smallest catch on record in 1928 when 63,368,000 pounds were taken.

Since 1913 records of the catch in the Canadian waters of the Great Lakes are available as well as those for the United States waters. During the 5-year period, from 1916 to 1920, inclusive, an average catch of 129,162,000 pounds was registered for the Lakes, while that in 1928 amounted to 92,914,000 pounds. Comparative statistics for each of the species taken in the United States and Canada since 1913 are shown in the following tables:

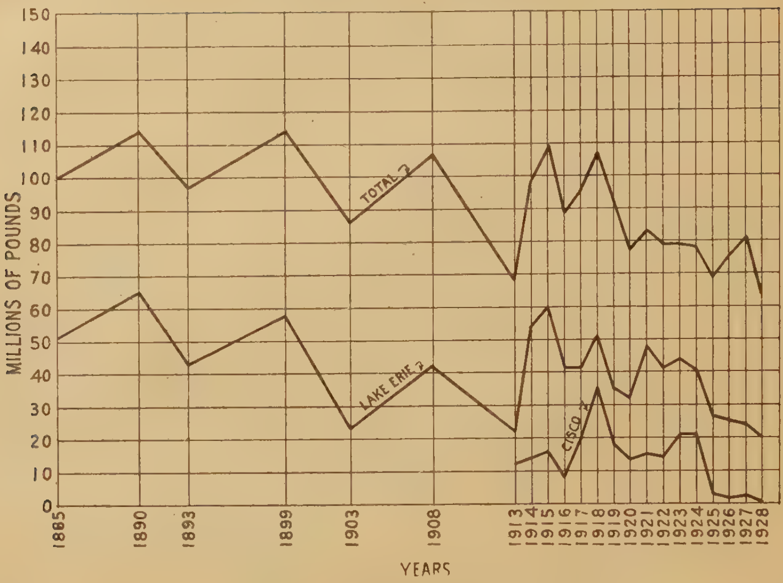

FIGURE 26.—Yield of the lake fisheries for various years, 1885 to 1928

Lake fisheries of the United States for certain years, 1885–1928

[Expressed in thousands of pounds; that is, 000 omitted]

Year	Lake Ontario [1]	Lake Erie	Lake St. Clair and St. Clair and Detroit Rivers	Lake Huron	Lake Michigan	Lake Superior	Lake of the Woods, Rainy Lake, and Namakan Lake [2]	Total
1885	2, 398	51, 457	2, 186	11, 457	23, 518	8, 826	(3)	99, 842
1890	3, 447	64, 851	2, 995	10, 056	26, 434	6, 116	(3)	113, 899
1893	928	42, 969	1, 814	12, 064	30, 748	8, 097	(3)	96, 620
1899	2, 406	58, 394	579	12, 418	34, 500	5, 430	(3)	113, 727
1903	1, 245	23, 189	522	14, 455	33, 579	13, 205	(3)	86, 195
1908	823	41, 922	737	12, 932	40, 019	10, 198	(3)	106, 631
1913	210	22, 120	(3)	11, 184	26, 994	6, 417	1, 384	68, 309
1914	277	53, 571	(3)	8, 248	28, 195	7, 088	1, 246	98, 625
1915	395	59, 509	(3)	10, 245	31, 680	5, 694	1, 425	108, 948
1916	317	41, 223	(3)	17, 145	23, 023	5, 437	1, 287	88, 432
1917	656	41, 416	(3)	12, 512	29, 317	9, 889	2, 103	95, 893
1918	524	51, 479	(3)	14, 966	26, 675	11, 546	1, 489	106, 679
1919	472	35, 154	(3)	15, 240	29, 820	10, 500	1, 277	92, 463
1920	314	32, 192	(3)	11, 250	23, 053	9, 267	1, 299	77, 375
1921	1, 855	46, 731	(3)	9, 330	17, 018	7, 476	1, 048	83, 458
1922	889	40, 912	(3)	13, 481	16, 605	6, 569	978	79, 434
1923	710	44, 378	(3)	9, 920	15, 358	7, 584	1, 159	79, 109
1924	1, 049	40, 264	(3)	9, 074	17, 694	8, 944	1, 256	78, 281
1925	446	26, 639	(3)	6, 567	21, 710	12, 307	1, 463	69, 132
1926	788	25, 057	(3)	13, 132	20, 495	13, 436	2, 392	75, 300
1927	698	23, 796	(3)	15, 711	23, 681	15, 302	2, 139	81, 327
1928	854	19, 643	(3)	9, 943	17, 999	13, 132	1, 797	63, 368

[1] Includes the catch in Lake Ontario proper and Chaumont Bay in the years from 1913 to 1924, inclusive; Lake Ontario proper in 1925, and Lake Ontario proper, Niagara River below the falls, St. Lawrence River and Chaumont, Black River, Port, Great Sodus and Little Sodus Bays, prior to 1913 and since 1925.
[2] Does not include the catch in Namakan and Rainy Lakes prior to 1926.
[3] Comparable data not available.

Lake fisheries of the United States and Canada, 1913 to 1928

CATCH: BY LAKES

[Expressed in thousands of pounds; that is, 000 omitted]

Years	Lake Ontario			Lake Erie			Lake Huron			Lake Michigan, United States
	United States [1]	Canada [2]	Total	United States	Canada	Total	United States	Canada	Total	
Average, 1913-1915	294	3, 711	4, 005	45, 067	18, 691	63, 758	9, 892	6, 739	16, 631	28, 956
Average, 1916-1920	457	5, 193	5, 650	40, 293	16, 363	56, 656	14, 222	6, 760	20, 982	26, 378
Average, 1921-1925	990	4, 778	5, 768	39, 785	16, 384	56, 169	9, 674	7, 072	16, 746	17, 677
1926	788	4, 227	5, 015	25, 057	8, 752	33, 809	13, 132	7, 483	20, 615	20, 495
1927	698	3, 842	4, 540	23, 796	10, 069	33, 865	15, 711	8, 864	24, 575	23, 681
1928	854	3, 591	4, 445	19, 643	10, 467	30, 110	9, 943	7, 885	17, 828	17, 999

Years	Lake Superior			Lake of the Woods, Rainy Lake, and Namakan Lake			Total		
	United States	Canada	Total	United States [3]	Canada [4]	Total	United States	Canada	Total
Average, 1913-1915	6, 400	3, 654	10, 054	1, 352	3, 816	5, 168	91, 961	36, 611	128, 572
Average, 1916-1920	9, 328	5, 959	15, 287	1, 491	2, 718	4, 209	92, 169	36, 993	129, 162
Average, 1921-1925	8, 576	3, 828	12, 404	1, 181	3, 013	4, 194	77, 883	35, 075	112, 958
1926	13, 436	4, 311	17, 747	2, 392	2, 725	5, 117	75, 300	27, 498	102, 798
1927	15, 302	5, 152	20, 454	2, 139	2, 699	4, 838	81, 327	30, 626	111, 953
1928	13, 132	5, 401	18, 533	1, 797	2, 202	3, 999	63, 368	29, 546	92, 914

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[1] Includes the catch of Lake Ontario proper and Chaumont Bay in the years from 1913 to 1924, inclusiver Lake Ontario proper in 1925; and Lake Ontario proper, Niagara River below the falls, St. Lawrence Rive; and Chaumont, Black River, Port, Great Sodus and Little Sodus Bays for the years since 1925.

[2] Includes the catch in the Niagara River below the falls.

[3] Does not include the catch in Namakan and Rainy Lakes prior to 1926.

[4] Includes the catch in Lac Suel, Eagle Lake, etc., in the interior of Canada, prior to 1926.

NOTE.—The catch in the Detroit River, St. Clair River, and Lake St. Clair are not included in these statistics.

CATCH: BY SPECIES

[Expressed in thousands of pounds; that is, 000 omitted]

Years	Blue pike			Burbot: United States [1]	Carp			Catfish and bullheads		
	United States	Canada	Total		United States	Canada	Total	United States	Canada	Total
Average, 1913-1915	10, 710	2, 779	13, 489	[2] 65	8, 084	1, 092	9, 176	531	386	917
Average, 1916-1920	3, 616	1, 932	5, 548	[2] 347	5, 038	860	5, 898	1, 206	348	1, 554
Average, 1921-1925	9, 695	4, 492	14, 187	320	4, 097	433	4, 530	845	249	1, 094
1926	9, 362	3, 031	12, 393	373	4, 649	292	4, 941	910	173	1, 083
1927	7, 324	3, 087	10, 411	511	3, 669	327	3, 996	815	151	966
1928	4, 842	2, 145	6, 987	584	1, 242	396	1, 638	503	301	804

Years	Chubs			Cisco			Lake herring			Sauger: United States [1]
	United States	Canada	Total	United States	Canada	Total	United States	Canada	Total	
Average, 1913-1915	4, 321	397	4, 718	14, 200	7, 721	21, 921	14, 479	2, 676	17, 155	3, 450
Average, 1916-1920	5, 250	482	5, 732	18, 764	9, 996	28, 760	19, 429	4, 396	23, 825	3, 642
Average, 1921-1925	3, 163	267	3, 430	14, 805	6, 904	21, 709	12, 228	1, 525	13, 753	3, 384
1926	6, 069	973	7, 042	1, 449	1, 573	3, 022	16, 522	2, 807	19, 329	1, 634
1927	6, 616	1, 375	7, 991	2, 350	2, 309	4, 659	22, 177	3, 474	25, 651	1, 246
1928	5, 031	801	5, 832	618	1, 273	1, 891	14, 937	4, 016	18, 953	1, 596

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[1] The Canadian catch of these species has been included with "Miscellaneous fish."

[2] The catch for Lake Huron was included with "Miscellaneous fish" prior to 1919.

Lake fisheries of the United States and Canada, 1913 to 1928—Continued

CATCH: BY LAKES—Continued

Years	Lake trout			Pike (jacks)			Sturgeon			Sheepshead: United States [1]
	United States	Canada	Total	United States	Canada	Total	United States	Canada	Total	
Average, 1913–1915	10, 554	5, 590	16, 144	509	3, 381	3, 890	84	204	288	1, 697
Average, 1916–1920	10, 559	5, 744	16, 303	456	1, 373	1, 829	62	102	164	2, 503
Average, 1921–1925	10, 510	6, 262	16, 772	376	1, 117	1, 493	27	93	120	2, 114
1926	11, 559	6, 433	17, 992	302	952	1, 254	38	84	122	1, 325
1927	10, 493	7, 077	17, 570	398	1, 099	1, 497	41	77	118	4, 361
1928	9, 418	6, 415	15, 833	531	964	1, 495	30	337	367	2, 934

Years	Sucker "mullet": United States [1]	Tullibees			White bass: United States [1]	Whitefish, common			Whitefish, Menominee: United States [1]
		United States	Canada	Total		United States	Canada	Total	
Average, 1913–1915	4, 566	(3)	189	(3)	566	4, 545	5, 322	9, 867	(4)
Average, 1916–1920	4, 627	(3)	185	(3)	305	4, 900	5, 551	10, 451	(4)
Average, 1921–1925	3, 300	(3)	215	(3)	484	3, 799	6, 038	9, 837	(4)
1926	4, 122	990	164	1, 154	158	5, 148	4, 800	9, 948	(4)
1927	4, 765	662	106	768	126	5, 463	4, 792	10, 255	(4)
1928	3, 995	220	46	266	286	6, 431	4, 392	10, 823	460

Years	Yellow perch			Yellow pike			Miscellaneous fish		
	United States	Canada	Total	United States	Canada	Total	United States	Canada	Total
Average, 1913–1915	5, 974	1, 383	7, 357	2, 725	3, 024	5, 749	4, 906	2, 467	7, 373
Average, 1916–1920	4, 995	1, 521	6, 516	3, 002	1, 663	4, 665	3, 465	2, 842	6, 307
Average, 1921–1925	3, 960	2, 360	6, 320	2, 569	2, 355	4, 924	2, 147	2, 768	4, 915
1926	5, 407	1, 956	7, 363	2, 828	1, 623	4, 451	2, 455	2, 637	5, 092
1927	4, 995	2, 727	7, 722	3, 025	1, 553	4, 578	2, 290	2, 472	4, 762
1928	5, 784	4, 598	10, 382	2, 926	1, 409	4, 335	1, 001	2, 452	3, 453

[1] The Canadian catch of these species has been included with "Miscellaneous fish."
[3] The catch for the United States was included with "Miscellaneous fish" prior to 1925.
[4] Included with "Miscellaneous fish" prior to 1928.

FISHERIES OF THE MISSISSIPPI RIVER AND TRIBUTARIES

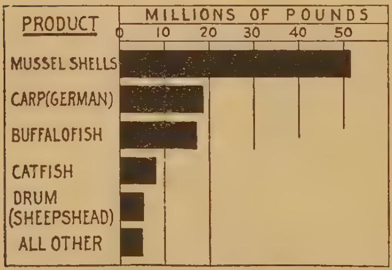

FIGURE 27.—Yield of principal fishery products in the Mississippi River and tributaries, 1922

The latest statistical canvass made of the fisheries and fishery industries of the Mississippi River and tributaries was for the calendar year 1922. The complete statistics for the canvass were published in the report of the division of fishery industries for 1923 and in Statistical Bulletin No. 607. During 1922 the fisheries and fishery industries of this region employed 19,122 persons, and the yield of the fisheries amounted to 105,733,734 pounds, valued at $4,503,521.

Catch of the fisheries of the Mississippi River and tributaries, 1922, with the total catch for certain previous years

Species	Total	
	Pounds	*Value*
Black bass	73, 554	$10, 874
Bowfin	190, 073	6, 078
Buffalo fish	17, 267, 177	1, 013, 692
Carp, German	18, 338, 371	872, 128
Catfish and bullheads	8, 092, 690	713, 461
Crappie	512, 423	49, 338
Drum, fresh-water, or sheepshead	5, 260, 892	290, 480
Eels	16, 060	1, 057
Mooneye or toothed herring	3, 450	166
Paddlefish, or spoonbill cat	1, 398, 991	132, 545
Paddlefish caviar	12, 398	29, 546
Pike and pickerel	20, 100	1, 850
Pike perch (sauger)	4, 745	768
Pike perch (wall-eyed)	24, 650	3, 750
Quillback, or American carp	765, 389	59, 221
Rock bass	2, 738	312
Sturgeon, lake	10, 953	1, 369
Sturgeon, shovelnose	227, 365	19, 323
Sturgeon, shovelnose, caviar	1, 880	2, 615
Sturgeon, shovelnose, eggs	449	764
Suckers	699, 539	$63, 028
Sunfish	374, 533	24, 955
White bass	64, 624	5, 500
Yellow bass	7, 500	600
Yellow perch	22, 250	1, 904
Other fish	73, 275	4, 917
Shrimp	147, 482	14, 570
Crawfish	7, 890	759
Frogs	231, 761	20, 410
Turtles	96, 743	2, 772
Alligator hides	15, 616	2, 673
Mussel shells	51, 768, 173	1, 050, 592
Pearls		46, 124
Slugs		55, 380
Total	105, 733, 734	4, 503, 521
1894 (all species)	44, 544, 828	1, 384, 574
1899 (all species)	96, 797, 437	1, 781, 029
1903 (all species)	93, 374, 159	1, 841, 168

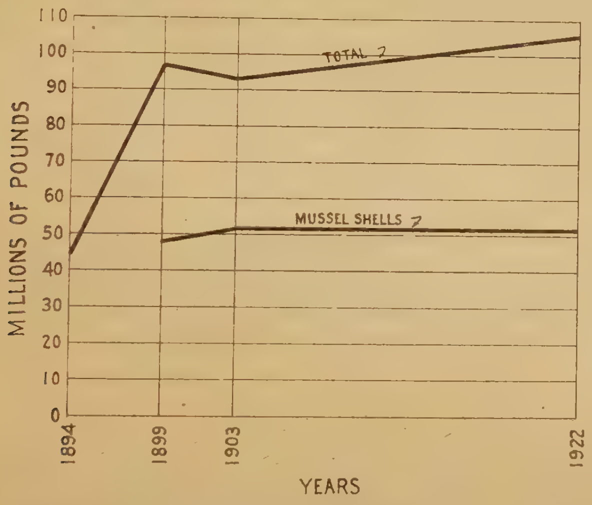

FIGURE 28.—Yield of fishery products in the Mississippi River and tributaries for various years, 1894 to 1922

FRESH-WATER MUSSEL SHELL FISHERY

During 1929 the catch of fresh-water mussel shells in the United States amounted to 54,352,000 pounds, valued at $1,324,919. This represents a decrease of 6 per cent in the catch and an increase of 4 per cent in the value, as compared with the catch and its value in 1922.

Tennessee was the most important producing State during 1929, accounting for 21 per cent of the total catch. Arkansas ranked second with 20 per cent. Other important producing States were Michigan, 10 per cent; Iowa, Indiana, and Illinois, each 8 per cent; and Wisconsin, 7 per cent.

Catch of the fresh-water mussel shell fishery of the United States, 1929

State	Pounds	Value	State	Pounds	Value
Alabama	948, 000	$18, 058	Missouri	808, 000	$15, 752
Arkansas	11, 032, 000	229, 121	Ohio	1, 266, 000	39, 743
Illinois	4, 252, 000	104, 266	Oklahoma	36, 000	400
Indiana	4, 370, 000	120, 123	South Dakota	746, 000	14, 271
Iowa	4, 380, 000	122, 429	Tennessee	11, 404, 000	178, 702
Kentucky	1, 600, 000	28, 045	Texas	1, 624, 000	36, 209
Louisiana	1, 308, 000	24, 481	Wisconsin	3, 614, 000	97, 123
Michigan	5, 318, 000	250, 125			
Minnesota	1, 184, 000	29, 666	Total	54, 352, 000	1, 324, 919
Mississippi	462, 000	16, 405			

LAKE PEPIN

The fisheries of Lake Pepin, exclusive of those prosecuted for mussel shells, employed 54 fishermen in 1929 as compared with 124 in 1928. The catch amounted to 390,696 pounds valued at $31,477—a decrease of 46 per cent in the catch and 30 per cent in the value of the catch as compared with the catch and its value for 1928. Compared with 1922 there was a decrease of 89 per cent in the catch. German carp was by far the most important species taken in this lake, constituting 64 per cent of the total catch and 55 per cent of the value of the catch. Fresh-water drum was second in importance accounting for 16 per cent of the catch and 20 per cent of the value. Other species of considerable importance were catfish, buffalofish, and suckers.

OPERATING UNITS BY GEAR

In 1929 the catch of fishery products of Lake Pepin was taken by 30 regular fishermen, 24 casual fishermen, 35 motor boats, 73 other small boats, 19 haul seines having a combined length of 7,782 yards, 81 gill nets having a length of 3,717 yards, 8 lines having a length of 866 yards, 47 fish traps, 101 fyke nets, and 3 spears.

CATCH BY GEAR

Two types of gear accounted for 90 per cent of the fishery products taken in this lake during 1929. By far the most important of these were haul seines which accounted for 67 per cent of the catch and 60 per cent of the value of the catch. Ranked next in importance were fish traps which accounted for 23 per cent of the catch and 31 per cent of the value of the catch.

OPERATING UNITS BY STATES AND COUNTIES

Wisconsin accounted for 95 per cent of the total number of fishermen of Lake Pepin during 1929. Pierce County, in Wisconsin, ranked foremost in this respect accounting for 56 per cent. Wisconsin also accounted for 93 per cent of the fishing boats. Pierce County alone accounted for 53 per cent.

CATCH BY STATES AND COUNTIES

The fisheries of Lake Pepin were prosecuted in two counties in Minnesota and two in Wisconsin during 1929. Pierce County, in Wisconsin, accounted for 56 per cent of the total catch and 46 per cent of the value of the catch. Pepin County in the same State accounted for 36 per cent of the catch and 45 per cent of the value.

Fisheries of Lake Pepin, 1929

OPERATING UNITS AND CATCH: BY GEAR

Items	Haul seines		Gill nets		Lines		Fish traps	
OPERATING UNITS	*Number*		*Number*		*Number*		*Number*	
Fishermen:								
Regular	18		2				8	
Casual	9		5		3		4	
Total	27		7		3		12	
Boats:								
Motor	19		10				11	
Other	44		14		3		17	
Fishing apparatus	19		81		8		47	
Length in yards	7,782		3,717		866			
SPECIES	*Pounds*	*Value*	*Pounds*	*Value*	*Pounds*	*Value*	*Pounds*	*Value*
Bowfin	4,622	$143					2,340	$65
Buffalo fish	7,476	776	40	$5			11,470	1,137
Carp, German	208,191	14,370	12,138	1,010	710	$43	8,616	608
Carp, American, or quillback	830	42					851	33
Catfish	4,040	804					15,212	3,485
Drum, fresh-water, or sheepshead	21,192	2,100					40,920	3,998
Paddlefish or spoonbill cat	685	137						
Suckers	13,375	533					10,408	423
Turtles							300	15
Total	260,411	18,905	12,178	1,015	710	43	90,117	9,764

Items	Fyke nets		Spears		Total, exclusive of duplication	
OPERATING UNITS	*Number*		*Number*		*Number*	
Fishermen:						
Regular	3				30	
Casual	4		3		24	
Total	7		3		54	
Boats:						
Motor	6				35	
Other	11		3		73	
Fishing apparatus	101		3			
SPECIES	*Pounds*	*Value*	*Pounds*	*Value*	*Pounds*	*Value*
Bowfin	2,358	$71			9,320	$279
Buffalo fish	1,085	109			20,071	2,027
Carp, German	20,401	1,248	846	$51	250,902	17,330
Carp, American, or quillback					1,681	75
Catfish	1,020	208			20,272	4,497
Drum, fresh-water, or sheepshead	792	40			62,904	6,138
Paddlefish or spoonbill cat					685	137
Suckers	778	23			24,561	979
Turtles					300	15
Total	26,434	1,699	846	51	390,696	31,477

Fisheries of Lake Pepin, 1929—Continued

OPERATING UNITS: BY STATES AND COUNTIES

Items	Minnesota			Wisconsin			Total for lake
	Goodhue County	Wabasha County	Total	Pepin County	Pierce County	Total	
	Number	*Number*	*Number*	*Number*	*Number*	*Number*	*Number*
Fishermen:							
Regular	1	2	3	12	15	27	30
Casual				9	15	24	24
Total	1	2	3	21	30	51	54
Boats:							
Motor	1	1	2	16	17	33	35
Other	3	3	6	27	40	67	73
Apparatus:							
Haul seines	1	1	2	3	14	17	19
Length, yards	100	667	767	1, 033	5, 982	7, 015	7, 782
Gill nets				81		81	81
Length, yards				3, 717		3, 717	3, 717
Lines					8	8	8
Length, yards					866	866	866
Fish traps				46	1	47	47
Fyke nets				10	91	101	101
Spears					3	3	3

CATCH: BY STATES AND COUNTIES

Species	Minnesota					
	Goodhue County		Wabasha County		Total	
	Pounds	*Value*	*Pounds*	*Value*	*Pounds*	*Value*
Bowfin	260	$13			260	$13
Buffalo fish	1, 400	165	2, 000	$200	3, 400	365
Carp, German	700	35	5, 000	300	5, 700	335
Carp, American, or quillback	830	42			830	42
Catfish	500	100			500	100
Drum, fresh-water, or sheepshead	6, 000	586	10, 000	1, 000	16, 000	1, 586
Suckers	1, 000	41	3, 000	150	4, 000	191
Total	10, 690	982	20, 000	1, 650	30, 690	2, 632

Species	Wisconsin						Total for lake	
	Pepin County		Pierce County		Total			
	Pounds	*Value*	*Pounds*	*Value*	*Pounds*	*Value*	*Pounds*	*Value*
Bowfin	2, 175	$59	6, 885	$207	9, 060	$266	9, 320	$279
Buffalo fish	12, 849	1, 280	3, 822	382	16, 671	1, 662	20, 071	2, 027
Carp, German	49, 064	4, 093	196, 138	12, 902	245, 202	16, 995	250, 902	17, 330
Carp, American, or quillback	851	33			851	33	1, 681	75
Catfish	17, 534	3, 949	2, 238	448	19, 772	4, 397	20, 272	4, 497
Drum, fresh-water, or sheepshead	43, 660	4, 237	3, 244	315	46, 904	4, 552	62, 904	6, 138
Paddlefish			685	137	685	137	685	137
Suckers	16, 148	656	4, 413	132	20, 561	788	24, 561	979
Turtles	300	15			300	15	300	15
Total	142, 581	14, 322	217, 425	14, 523	360, 006	28, 845	390, 696	31, 477

Operating units and catch of Lake Pepin for various years, 1914 to 1929

Items	1914	1917	1922	1927	1928	1929
OPERATING UNITS						
	Number	*Number*	*Number*	*Number*	*Number*	*Number*
Fishermen	135	126	219	139	124	54
Boats:						
Motor	28	35	109	39	43	35
Other	54	55	136	105	98	73
Fishing apparatus:						
Haul seines	14	17	33	23	27	19
Gill nets	664	371	351	152	127	81
Lines					5	8
Fish traps	8	14			67	47
Fyke nets	295	262	95	280	100	101
Spears			7	4	2	3
SPECIES						
	Pounds	*Pounds*	*Pounds*	*Pounds*	*Pounds*	*Pounds*
Bowfin	1, 534	24, 021	16, 136	3, 334	8, 477	9, 320
Buffalo fish	261, 250	300, 808	340, 309	33, 449	23, 992	20, 071
Carp, German	237, 517	467, 588	2, 578, 916	615, 242	488, 023	250, 902
Carp, American, or quillback	60, 605	14, 238	47, 377	4, 835	2, 839	1, 681
Catfish and bullheads	26, 830	254, 249	127, 384	53, 076	52, 356	20, 272
Drum, fresh-water, or sheepshead	131, 785	118, 304	395, 592	113, 793	101, 582	62, 904
Eels			541	318	235	
Mooneye, fresh	9, 300	7, 656		8, 976	1, 600	
Mooneye, smoked	1, 465	7, 250				
Paddlefish or spoonbill cat	8, 877	2, 923	15, 971	1, 191	7, 909	685
Pike (grass)	50					
Sturgeon, lake	1, 067	512	5, 253			
Sturgeon, shovelnose			1, 080			
Suckers	18, 340	15, 260	43, 466	31, 911	33, 645	24, 561
Sunfish	50					
Turtles			442			300
Total	758, 670	1, 212, 809	3, 572, 467	866, 125	720, 658	390, 696

LAKE KEOKUK

The fisheries of Lake Keokuk, exclusive of those for mussel shells, employed 55 fishermen during 1929 as compared with 85 in 1928. The catch amounted to 350,750 pounds, valued at $25,666, which is a decrease of 35 per cent in the catch and 42 per cent in the value of the catch as compared with the catch and its value for 1927. Compared with 1922, there has been a decrease of 50 per cent in the catch. Considered according to the value of the catch German carp and catfish were of about equal importance in these fisheries during 1929, German carp accounting for 51 per cent of the catch and 35 per cent of the value of the catch and catfish accounting for 21 per cent of the catch and 35 per cent of the value of the catch. Buffalo fish ranked next with 12 per cent of the catch and 17 per cent of the value of the catch.

OPERATING UNITS BY GEAR

The catch of fishery products of Lake Keokuk was taken by 49 regular fishermen, 6 casual fishermen, 50 motor boats, 49 other small boats, 5 haul seines having a combined length of 1,450 yards, 28 lines having a length of 8,300 yards, 4 fish traps, 1,485 fyke nets, and 833 baskets.

CATCH BY GEAR

Three types of gear accounted for 96 per cent of the fishery products taken in this lake during 1929. By far the most important of these gears were fyke nets, which accounted for 73 per cent of the catch and 64 per cent of the value of the catch. Ranked next in order were baskets, which accounted for 13 per cent of the catch and 21 per cent of the value, and haul seines accounted for 10 per cent of the catch and 8 per cent of the value.

OPERATING UNITS BY STATES AND COUNTIES

Illinois accounted for 51 per cent of the total number of fishermen employed in the fisheries of Lake Keokuk. The entire activities in this State were confined to Hancock County. Des Moines County, in Iowa, accounted for 36 per cent of the total number of fishermen. Hancock County, in Illinois, also accounted for 52 per cent of the boats operated, and Des Moines County accounted for 40 per cent.

CATCH BY STATES AND COUNTIES

The fisheries of Lake Keokuk were prosecuted in one county in Illinois and two in Iowa. Hancock County in Illinois accounted for 56 per cent of the catch and 57 per cent of the value of the catch, and Des Moines County in Iowa accounted for 26 per cent of the catch and 25 per cent of the value of the catch.

Fisheries of Lake Keokuk, 1929

OPERATING UNITS AND CATCH: BY GEAR

Items	Haul seines		Lines		Fish traps	
OPERATING UNITS	*Number*		*Number*		*Number*	
Fishermen:						
Regular	5		4		2	
Casual	2		3		----	
Total	7		7		2	
Boats:						
Motor	2		8		----	
Other	5		6		2	
Fishing apparatus	5		28		4	
Length in yards	1,450		8,300		----	
SPECIES	*Pounds*	*Value*	*Pounds*	*Value*	*Pounds*	*Value*
Bowfin	150	$5	530	$16	100	$4
Buffalo fish	1,800	196	100	9	2,300	272
Carp, German	23,100	1,210	1,580	79	1,500	90
Catfish	1,100	161	7,000	870	130	25
Drum, fresh-water, or sheepshead	8,650	609	1,380	97	700	92
Mooneye	----	----	----	----	500	20
White bass	----	----	----	----	520	63
Total	34,800	2,181	10,590	1,071	5,750	566

Fisheries of Lake Keokuk, 1929—Continued

OPERATING UNITS AND CATCH: BY GEAR—Continued

Items	Fyke nets		Baskets		Total, exclusive of duplication	
OPERATING UNITS						
Fishermen:	*Number*		*Number*		*Number*	
Regular	26		10		49	
Casual	--------		5		6	
Total	26		15		55	
Boats:						
Motor	46		30		50	
Other	47		12		49	
Fishing apparatus	1,485		833		--------	
SPECIES	*Pounds*	*Value*	*Pounds*	*Value*	*Pounds*	*Value*
Bowfin	8,400	$253	--------	--------	9,180	$278
Buffalo fish	38,720	3,859	--------	--------	42,920	4,336
Carp, German	152,200	7,637	--------	--------	178,380	9,016
Carp, American, or quillback	5,700	170	--------	--------	5,700	170
Catfish	21,500	2,424	44,000	$5,432	73,730	8,912
Drum, fresh-water, or sheepshead	28,200	2,000	--------	--------	38,930	2,798
Mooneye	--------	--------	--------	--------	500	20
Paddlefish or spoonbill cat	340	35	--------	--------	340	35
Sunfish	550	38	--------	--------	550	38
White bass	--------	--------	--------	--------	520	63
Total	255,610	16,416	44,000	5,432	350,750	25,666

OPERATING UNITS: BY STATES AND COUNTIES

Items	Illinois: Hancock County	Iowa			Total for lake
		Des Moines County	Lee County	Total	
Fishermen:	*Number*	*Number*	*Number*	*Number*	*Number*
Regular	24	20	5	25	49
Casual	4	--------	2	2	6
Total	28	20	7	27	55
Boats:					
Motor	28	20	2	22	50
Other	24	20	5	25	49
Apparatus:					
Haul seines	--------	--------	5	5	5
Length, yards	--------	--------	1,450	1,450	1,450
Lines	22	3	3	6	28
Fish traps	--------	--------	4	4	4
Fyke nets	720	580	185	765	1,485
Baskets	623	170	40	210	833

CATCH: BY STATES AND COUNTIES

Species	Illinois: Hancock County		Iowa						Total for lake	
			Des Moines County		Lee County		Total			
	Pounds	*Value*	*Pounds*	*Value*	*Pounds*	*Value*	*Pounds*	*Value*	*Pounds*	*Value*
Bowfin	7,560	$227	1,370	$42	250	$9	1,620	$51	9,180	$278
Buffalo fish	17,720	1,772	18,000	1,773	7,200	791	25,200	2,564	42,920	4,336
Carp, German	101,840	5,100	39,500	1,977	37,040	1,939	76,540	3,916	178,380	9,016
Carp, American, or quillback	--------	--------	5,700	170	--------	--------	5,700	170	5,700	170
Catfish	51,600	6,471	15,900	1,590	6,230	851	22,130	2,441	73,730	8,912
Drum, fresh-water, or sheepshead	16,080	1,127	10,000	711	12,850	960	22,850	1,671	38,930	2,798
Mooneye	--------	--------	--------	--------	500	20	500	20	500	20
Paddlefish	190	20	150	15	--------	--------	150	15	340	35
Sunfish	--------	--------	450	32	100	6	550	38	550	38
White bass	--------	--------	--------	--------	520	63	520	63	520	63
Total	194,990	14,717	91,070	6,310	64,690	4,639	155,760	10,949	350,750	25,666

Operating units and catch of Lake Keokuk for various years, 1914 to 1929

Items	1914	1917	1922	1927	1928	1929
OPERATING UNITS	*Number*	*Number*	*Number*	*Number*	*Number*	*Number*
Fishermen	105	118	122	102	85	55
Boats:						
Motor	36	52	58	70	56	50
Other	94	80	111	82	70	49
Fishing apparatus:						
Haul seines	----------	1	2	3	4	5
Gill nets	----------	12	235	26	30	----------
Trammel nets	14	17	17	----------	----------	----------
Lines [1]	----------	----------	----------	----------	13	28
Fish traps	----------	81	----------	815	7	4
Fyke nets	1, 378	1, 368	1, 301	1, 594	1, 547	1, 485
Dip nets	----------	----------	1	----------	----------	----------
Baskets	----------	----------	----------	----------	692	833
SPECIES	*Pounds*	*Pounds*	*Pounds*	*Pounds*	*Pounds*	*Pounds*
Black bass	15	4, 163	6, 200	----------	----------	----------
Bowfin	----------	26, 000	----------	14, 055	13, 707	9, 180
Buffalo fish	249, 900	696, 543	113, 946	67, 872	36, 498	42, 920
Carp, German	302, 365	762, 259	276, 431	291, 199	281, 419	178, 380
Carp, American, or quillback	----------	5, 936	----------	9, 880	11, 467	5, 700
Catfish and bullheads	71, 535	109, 904	183, 919	140, 343	163, 576	73, 730
Crappie	70	17, 560	13, 770	----------	----------	----------
Drum, fresh-water, or sheepshead	26, 860	160, 554	65, 040	27, 538	16, 809	38, 930
Eels	3, 800	2, 087	----------	----------	----------	----------
Mooneye	----------	----------	----------	----------	----------	500
Paddlefish or spoonbill cat	----------	927	27, 405	1, 249	157	340
Pike (grass)	----------	20	----------	----------	----------	----------
Pike, sauger	----------	----------	2, 280	----------	----------	----------
Sturgeon, lake	1, 900	454	----------	----------	----------	----------
Sturgeon, shovelnose	----------	----------	600	----------	----------	----------
Suckers	4, 640	700	----------	----------	----------	----------
Sunfish	50	13, 879	11, 590	13, 563	14, 161	550
White bass	----------	----------	----------	----------	----------	520
Turtles	----------	----------	----------	385	----------	----------
Total	661, 135	1, 800, 986	701, 181	566, 084	537, 794	350, 750

[1] Lines are omitted in 1914, 1917, 1922, and 1927 because data on the number were not available.

MISSISSIPPI RIVER BETWEEN LAKE PEPIN AND LAKE KEOKUK

Statistics of the fisheries of the Mississippi River between Lakes Pepin and Keokuk were obtained for the year 1929 for the first time since they were collected as a part of the complete survey of the Mississippi River and tributaries for 1922. This survey has been made, as were those for Lakes Pepin and Keokuk, primarily to determine the biological and economic effects on the fisheries of this section following the construction of the Keokuk Dam; also, to forecast the probable effects of any subsequently constructed dams in this region.

Considered according to the value of the catch, German carp was the most important fish taken, accounting for 50 per cent of the catch and 36 per cent of the value of the catch. Buffalofish accounted for 22 per cent of the catch and 25 per cent of the value, and catfish and bullheads accounted for 10 per cent of the catch and 25 per cent of the value.

OPERATING UNITS BY GEAR

The catch of fishery products in the Mississippi River between Lakes Pepin and Keokuk was taken by 395 regular fishermen, 280 casual fishermen, 294 motor boats, 316 other small boats, 219 haul seines having a combined length of 39,500 yards, 55 gill nets having a length of 7,168 yards, 127 lines, 80 fish traps, 3,648 fyke nets, 2 dip nets, and 524 baskets.

CATCH BY GEAR

Two types of gear accounted for 90 per cent of the fishery products taken in this region during 1929. First in importance were haul seines which accounted for 57 per cent of the catch and 48 per cent of the value of the catch. Fyke nets ranked next accounting for 33 per cent of the catch and 41 per cent of the value of the catch.

OPERATING UNITS BY STATES

Iowa ranked foremost in the number of persons fishing in that part of the Mississippi River between Lakes Pepin and Keokuk, accounting for 44 per cent of the total, Wisconsin ranked second with 28 per cent, Minnesota third, with 19 per cent, and Illinois fourth, with 9 per cent. Iowa also ranked first in the number of fishing boats accounting for 49 per cent of the total. Wisconsin followed with 25 per cent.

CATCH BY STATES AND COUNTIES

The fisheries of the Mississippi River between Lakes Pepin and Keokuk were prosecuted in 6 counties in Illinois, 8 in Iowa, 3 in Minnesota, and 6 in Wisconsin. The fisheries of Iowa accounted for 52 per cent of the total catch and 50 per cent of the total value of the catch, and those in Wisconsin accounted for 29 per cent of the catch and 25 per cent of the value. Allamakee County, in Iowa, was the most important county, accounting for 21 per cent of the catch and 17 per cent of the value of the catch.

Fisheries of the Mississippi River between Lake Pepin and Lake Keokuk, 1929

OPERATING UNITS AND CATCH: BY GEAR

Items	Haul seines		Gill nets		Lines		Fish traps	
OPERATING UNITS								
Fishermen:	*Number*		*Number*		*Number*		*Number*	
Regular	262		12		16		24	
Casual	179		11		53		2	
Total	441		23		69		26	
Boats:								
Motor	168		12		13		16	
Other	174		13		58		17	
Fishing apparatus	219		55		127		80	
Length, yards	39, 500		7, 168					
SPECIES	*Pounds*	*Value*	*Pounds*	*Value*	*Pounds*	*Value*	*Pounds*	*Value*
Bowfin	139, 517	$6, 796			800	$16	4, 350	$204
Buffalo fish	348, 363	28, 378	16, 300	$1, 304	3, 550	285	33, 900	2, 750
Carp, German	916, 431	47, 727	29, 925	1, 496	30, 448	1, 531	76, 950	3, 883
Carp, American, or quillback	48, 047	2, 399	1, 900	95	100	5	2, 050	108
Catfish and bullheads	97, 351	10, 754	825	165	15, 365	3, 031	9, 250	1, 848
Drum, fresh-water, or sheepshead	149, 551	9, 022	2, 325	116	20, 710	1, 033	4, 688	286
Pickerel	450	38					330	46
Sturgeon	1, 190	224	1, 000	200	990	190	200	40
Suckers	87, 585	4, 364	1, 300	65	3, 500	175	3, 790	189
Total	1, 788, 485	109, 702	53, 575	3, 441	75, 463	6, 266	135, 508	9, 354

Fisheries of the Mississippi River between Lake Pepin and Lake Keokuk, 1929—Continued

OPERATING UNITS AND CATCH: BY GEAR—Continued

Items	Fyke nets		Dip nets		Baskets		Total, exclusive of duplication	
OPERATING UNITS								
Fishermen:	*Number*		*Number*		*Number*		*Number*	
Regular	208		2		12		395	
Casual	63		--------		--------		280	
Total	271		2		12		675	
Boats:								
Motor	208		--------		11		294	
Other	130		2		8		316	
Fishing apparatus	3, 648		2		524		--------	
SPECIES	*Pounds*	*Value*	*Pounds*	*Value*	*Pounds*	*Value*	*Pounds*	*Value*
Bowfin	1, 000	$44	--------	--------	--------	--------	145, 667	$7, 060
Buffalo fish	283, 637	24, 986	--------	--------	--------	--------	685, 750	57, 703
Carp, German	500, 404	27, 688	--------	--------	850	$51	1, 555, 008	82, 376
Carp, American, or quillback	28, 400	1, 318	--------	--------	--------	--------	80, 497	3, 925
Catfish and bullheads	161, 556	34, 053	100	$18	31, 100	7, 017	315, 547	56, 886
Drum, fresh-water, or sheepshead	64, 938	4, 845	530	58	1, 700	188	244, 442	15, 548
Pickerel	100	11	50	5	--------	--------	930	100
Sturgeon	2, 630	373	--------	--------	--------	--------	6, 010	1, 027
Suckers	7, 818	365	30	1	--------	--------	104, 023	5, 159
Total	1, 050, 483	93, 683	710	82	33, 650	7, 256	3, 137, 874	229, 784

OPERATING UNITS: BY STATES AND COUNTIES

Items	Illinois							Iowa	
	Carroll County	Henderson County	Jo Daviess County	Mercer County	Rock Island County	Whiteside County	Total	Allamakee County	Clayton Connty
	Number	*Number*	*Number*	*Number*	*Number*	*Number*	*Number*	*Number*	*Number*
Fishermen:									
Regular	12	10	3	35	1	2	63	57	34
Casual	--------	--------	--------	1	--------	--------	1	19	15
Total	12	10	3	36	1	2	64	76	49
Boats:									
Motor	4	10	3	21	1	1	40	41	22
Other	3	4	2	10	--------	1	20	45	24
Apparatus:									
Haul seines	4	--------	--------	7	--------	1	12	61	13
Length, yards	667	--------	--------	1, 226	--------	167	2, 060	10, 166	3, 667
Lines	6	20	--------	--------	--------	--------	26	--------	--------
Fish traps	--------	--------	--------	--------	--------	--------	--------	22	16
Fyke nets	45	247	30	402	30	6	760	495	560
Baskets	100	406	--------	18	--------	--------	524	--------	--------

Items	Iowa							Minnesota	
	Clinton County	Dubuque County	Jackson County	Louisa County	Muscatine County	Scott County	Total	Houston County	Wabasha County
	Number	*Number*	*Number*	*Number*	*Number*	*Number*	*Number*	*Number*	*Number*
Fishermen:									
Regular	24	19	40	4	17	19	214	4	6
Casual	14	--------	7	--------	4	23	82	1	10
Total	38	19	47	4	21	42	296	5	16
Boats:									
Motor	13	11	27	2	15	29	160	3	4
Other	14	9	19	3	10	14	138	4	9
Apparatus:									
Haul seines	7	5	8	1	3	5	103	3	4
Length, yards	1, 002	1, 667	1, 469	100	434	835	19, 340	500	1, 433
Gill nets	--------	1	--------	--------	--------	--------	1	--------	--------
Length, yards	--------	1, 000	--------	--------	--------	--------	1, 000	--------	--------
Lines	1	--------	14	--------	--------	--------	15	1	4
Fish traps	--------	32	6	2	1	--------	79	--------	--------
Fyke nets	82	171	523	24	140	230	2, 225	20	6
Dip nets	--------	2	--------	--------	--------	--------	--------	--------	--------

Fisheries of the Mississippi River between Lake Pepin and Lake Keokuk, 1929—Continued

OPERATING UNITS AND CATCH: BY GEAR—Continued

Items	Minnesota—Continued		Wisconsin							Total for region
	Winona County	Total	Buffalo County	Crawford County	Grant County	La Crosse County	Trempealeau County	Vernon County	Total	
	Number	*Number*	*Number*	*Number*	*Number*	*Number*	*Number*	*Number*	*Number*	*Number*
Fishermen:										
Regular	18	28	14	15	14	24	6	17	90	395
Casual	86	97	18	21	11	17	6	27	100	280
Total	104	125	32	36	25	41	12	44	190	675
Boats:										
Motor	13	20	10	15	12	24	2	11	74	294
Other	58	71	8	20	13	24	5	17	87	316
Apparatus:										
Haul seines	15	22	10	19	14	23	2	14	82	219
Length, yards	2,500	4,433	1,667	3,167	2,333	3,833	333	2,334	13,667	39,500
Gill nets	1	1		12	2	10	14	15	53	55
Length, yards	667	667		1,200	667	1,667	467	1,500	5,501	7,168
Lines	46	51	6	2			12	15	35	127
Fish traps					1				1	80
Fyke nets	33	93		274	189	19		88	570	3,648
Dip nets										2
Baskets										524

CATCH: BY STATES AND COUNTIES

Species	Illinois							
	Carroll County		Henderson County		Jo Daviess County		Mercer County	
	Pounds	*Value*	*Pounds*	*Value*	*Pounds*	*Value*	*Pounds*	*Value*
Buffalo fish	10,000	$1,076	5,650	$508	2,900	$399	49,500	$4,545
Carp, German	23,000	2,210	44,850	2,691	950	61	102,900	6,001
Catfish and bullheads	13,000	3,523	39,750	8,699	8,000	2,047	21,150	4,734
Drum, fresh-water or sheepshead	1,700	202	2,650	290	290	47	46,500	4,436
Sturgeon							450	81
Total	47,700	7,011	92,900	12,188	12,140	2,554	220,500	19,797

Species	Illinois					
	Rock Island County		Whiteside County		Total	
	Pounds	*Value*	*Pounds*	*Value*	*Pounds*	*Value*
Buffalo fish	2,000	$180	3,000	$270	73,050	$6,978
Carp, German	6,000	420	4,000	260	181,700	11,643
Catfish and bullheads			300	70	82,200	19,073
Drum, fresh-water or sheepshead	100	11	800	88	52,040	5,074
Sturgeon					450	81
Total	8,100	611	8,100	688	389,440	42,849

Species	Iowa									
	Allamakee County		Clayton County		Clinton County		Dubuque County		Jackson County	
	Pounds	*Value*	*Pounds*	*Value*	*Pounds*	*Value*	*Pounds*	*Value*	*Pounds*	*Value*
Bowfin	51,476	$2,573	35,400	$1,769			2,150	$106	7,200	$142
Buffalo fish	106,538	8,681	93,633	7,489	15,890	$1,512	42,130	3,442	92,530	8,294
Carp, German	333,608	16,678	175,921	8,794	41,935	2,856	81,100	4,305	132,350	6,548
Carp, American or quillback	20,250	1,017	15,100	754			2,850	142		
Catfish and bullheads	74,162	5,949	28,321	5,663	9,830	2,219	9,300	1,857	24,330	4,407
Drum, fresh-water or sheepshead	43,981	2,198	14,496	723	1,100	121	3,230	223	3,140	313
Pickerel							280	43	650	57
Sturgeon	200	40			340	50			590	69
Suckers	26,949	1,347	5,267	261			4,430	221	1,200	25
Total	657,164	38,483	368,138	25,453	69,095	6,758	145,470	10,339	261,990	19,855

Fisheries of the Mississippi River between Lake Pepin and Lake Keokuk, 1929—Continued

OPERATING UNITS AND CATCH: BY GEAR—Continued

Species	Iowa							
	Louisa County		Muscatine County		Scott County		Total	
	Pounds	*Value*	*Pounds*	*Value*	*Pounds*	*Value*	*Pounds*	*Value*
Bowfin							96, 226	$4, 590
Buffalo fish	5, 500	$530	13, 630	$1, 267	11, 805	$1, 027	381, 656	32, 242
Carp, German	6, 400	369	26, 500	2, 151	25, 195	1, 518	823, 109	43, 237
Carp, American or quillback							38, 200	1, 913
Catfish and bullheads	1, 300	258	7, 880	1, 762	12, 890	2, 631	167, 913	24, 728
Drum, fresh-water or sheepshead	2, 750	288	4, 750	522	2, 300	262	75, 747	4, 650
Pickerel							930	100
Sturgeon	150	24	600	72	1, 230	201	3, 110	456
Suckers					50	1	37, 896	1, 855
Total	16, 100	1, 469	53, 360	5, 774	53, 470	5, 640	1, 624, 787	113, 771

Species	Minnesota							
	Houston County		Wabasha County		Winona County		Total	
	Pounds	*Value*	*Pounds*	*Value*	*Pounds*	*Value*	*Pounds*	*Value*
Bowfin					1, 557	$78	1, 557	$78
Buffalo fish	13, 050	$1, 044	8, 500	$680	15, 657	1, 253	37, 207	2, 977
Carp, German	25, 500	1, 275	12, 000	600	45, 476	2, 273	82, 976	4, 148
Carp, American or quillback	2, 050	102			6, 322	316	8, 372	418
Catfish and bullheads	2, 400	480	2, 075	415	17, 644	3, 529	22, 119	4, 424
Drum, fresh-water or quillback	4, 300	215	23, 800	1, 190	22, 980	1, 149	51, 080	2, 554
Sturgeon			50	10			50	10
Suckers	950	47	6, 300	315	8, 314	415	15, 564	777
Total	48, 250	3, 163	52, 725	3, 210	117, 950	9, 013	218, 925	15, 386

Species	Wisconsin							
	Buffalo County		Crawford County		Grant County		La Crosse County	
	Pounds	*Value*	*Pounds*	*Value*	*Pounds*	*Value*	*Pounds*	*Value*
Bowfin	154	$6	18, 630	$931	1, 500	$75		
Buffalo fish	8, 012	640	44, 700	3, 576	70, 600	5, 648	26, 000	$2, 080
Carp, German	76, 055	3, 803	161, 000	8, 050	56, 500	2, 825	61, 500	3, 075
Carp, American or quillback			16, 875	743	6, 100	304	2, 650	132
Catfish and bullheads	8, 140	1, 628	14, 600	2, 920	5, 400	1, 080	1, 575	315
Drum, fresh-water or quillback	5, 600	280	22, 250	1, 104	4, 725	236	4, 700	235
Suckers	12, 988	649	15, 300	765	2, 025	101	2, 950	147
Total	110, 949	7, 006	293, 355	18, 089	146, 850	10, 269	99, 375	5, 984

Species	Wisconsin						Total for region	
	Trempealeau County		Vernon County		Total			
	Pounds	*Value*	*Pounds*	*Value*	*Pounds*	*Value*	*Pounds*	*Value*
Bowfin	1, 000	$50	26, 600	$1, 330	47, 884	$2, 392	145, 667	$7, 060
Buffalo fish	2, 525	202	42, 000	3, 360	193, 837	15, 506	685, 750	57, 703
Carp, German	12, 768	638	99, 500	4, 975	467, 323	23, 366	1, 555, 008	82, 376
Carp, American or quillback	3, 000	150	5, 300	265	33, 925	1, 594	80, 497	3, 925
Catfish and bullheads	2, 800	560	10, 700	2, 140	43, 215	8, 643	315, 547	56, 886
Drum, fresh-water or quillback	1, 900	95	26, 400	1, 320	65, 575	3, 270	244, 442	15, 548
Pickerel							930	100
Sturgeon	1, 300	260	1, 100	220	2, 400	480	6, 010	1, 027
Suckers	700	35	16, 600	830	50, 563	2, 527	104, 023	5, 159
Total	25, 993	1, 990	228, 200	14, 440	904, 722	57, 778	3, 137, 874	229, 784

FISHERIES OF ALASKA, 1929

Statistics for the fisheries of Alaska are collected and compiled by the Alaska division of the bureau. A summary of these statistics appears herewith. For the detailed figures the reader is referred to Alaska Fishery and Fur-seal Industries in 1929, by Ward T. Bower, Bureau of Fisheries Document No. 1086.

The fisheries of Alaska during 1929 employed 29,283 persons, of whom 10,921 were fishermen, 16,646 were employed in the wholesale and manufacturing industries, and 1,716 in transporting fishery products. The catch in the round weight, exclusive of whales, amounted to 642,498,047 pounds, valued at $16,582,219. The round weight of whales could not be determined, but their products amounted to 8,925,189 pounds, valued at $502,081. Of the total catch, exclusive of whales, 442,601,784 pounds, valued at $10,843,836, consisted of salmon; 197,887,987 pounds, valued at $5,621,157, consisted of other fish; and 2,008,276 pounds, valued at $117,226, consisted of shellfish.

There were 262 establishments (exclusive of duplication) engaged in the fisheries trade in Alaska in 1929. Of these, 158 canned fish, 103 cured fish, 23 manufactured by-products, and 42 handled fresh and frozen fishery products.

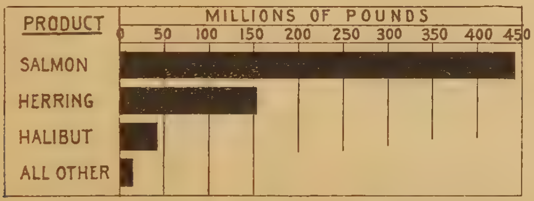

FIGURE 29.—Yield of principal fishery products in Alaska, 1929

The output of these establishments amounted to 387,593,551 pounds, valued at $50,795,819. The salmon industry was by far the most important and produced 272,244,435 pounds of products, valued at $42,524,845. In value, the halibut industry was next in importance and produced 37,456,998 pounds of products, valued at $4,422,605. The herring industry ranked third and produced 66,577,749 pounds of products, valued at $2,794,084. Of the remainder, whale, clam, and shrimp products were most important in value.

In considering the wholesale and manufacturing industries separately, the canning industry ranked foremost and produced 258,120,063 pounds of fishery products, valued at $40,673,061. In value, fresh fish ranked second, producing 34,179,433 pounds of products, valued at $3,810,010. The by-products industry was third, with products amounting to 61,685,269 pounds, valued at $2,714,674; the cured-fish industry was fourth, with an output of 14,369,167 pounds, valued at $2,038,136; and the frozen-fish industry fifth, accounting for the remainder of the products, amounting to 19,239,619 pounds, valued at $1,559,938.

Fisheries of Alaska, 1929

SUMMARY: BY DISTRICTS

Items	Southeast Alaska		Central Alaska	
PERSONS ENGAGED	*Number*		*Number*	
In fishing	5, 420	----------	2, 476	----------
In transporting	920	----------	656	----------
In wholesale and manufacturing industries	6, 876	----------	4, 644	----------
Total	13, 216	----------	7, 776	----------
CRAFT EMPLOYED				
Vessels fishing	649	----------	61	----------
Boats fishing	2, 481	----------	1, 605	----------
Vessels transporting	191	----------	142	----------
Scows, houseboats, pile drivers, etc	423	----------	352	----------
Total	3, 744	----------	2, 160	----------
CATCH				
Fish:	*Pounds*	*Value*	*Pounds*	*Value*
Salmon	153, 029, 872	$3, 941, 662	167, 594, 723	$3, 809, 149
Other	175, 748, 141	5, 285, 980	13, 912, 108	273, 469
Shellfish	1, 054, 498	53, 874	953, 778	63, 352
Total	329, 832, 511	9, 281, 516	182, 460, 609	4, 145, 970
	Number		*Number*	
Whales	----------	----------	225	----------
Wholesale and manufacturing establishments	108	----------	111	----------
PRODUCTS AS PREPARED FOR MARKET	*Pounds*		*Pounds*	
Salmon	112, 502, 402	15, 457, 493	101, 123, 757	14, 937, 846
Herring	57, 062, 696	2, 191, 258	3, 965, 351	154, 162
Halibut	35, 671, 973	4, 238, 872	1, 785, 025	183, 733
Cod	----------	----------	713, 838	39, 756
Trout	68, 656	8, 281	28, 469	2, 978
Sablefish	472, 095	22, 706	----------	----------
Smelt	5, 166	533	----------	----------
Rockfish	460	9	----------	----------
"Lingcod"	39, 798	1, 108	----------	----------
Clam	----------	----------	352, 239	203, 656
Shrimp	497, 750	200, 312	----------	----------
Crab	78, 519	27, 624	132, 190	45, 241
Whale	----------	----------	4, 644, 125	266, 221
Total	206, 399, 515	22, 148, 196	112, 744, 994	15, 833, 593

Items	Western Alaska		Total	
PERSONS ENGAGED	*Number*		*Number*	
In fishing	3, 025	----------	10, 921	----------
In transporting	140	----------	1, 716	----------
In wholesale and manufacturing industries	5, 126	----------	16, 646	----------
Total	8, 291	----------	29, 283	----------
CRAFT EMPLOYED				
Vessels fishing	24	----------	734	----------
Boats fishing	1, 334	----------	5, 420	----------
Vessels transporting	83	----------	416	----------
Scows, houseboats, pile drivers, etc	224	----------	999	----------
Total	1, 665	----------	7, 569	----------
CATCH				
Fish:	*Pounds*	*Value*	*Pounds*	*Value*
Salmon	121, 977, 189	$3, 093, 025	442, 601, 784	$10, 843, 836
Other	8, 227, 738	61, 708	197, 887, 987	5, 621, 157
Shellfish	----------	----------	2, 008, 276	117, 226
Total	130, 204, 927	3, 154, 733	642, 498, 047	16, 582, 219
	Number		*Number*	
Whales	160	----------	385	----------
Wholesale and manufacturing establishments	43	----------	262	----------

Fisheries of Alaska, 1929—Continued

SUMMARY: BY DISTRICTS—Continued

Items	Western Alaska		Total	
PRODUCTS AS PREPARED FOR MARKET	*Pounds*	*Value*	*Pounds*	*Value*
Salmon	58,618,276	$12,129,506	272,244,435	$42,524,845
Herring	5,549,702	448,664	66,577,749	2,794,084
Halibut	--------	--------	37,456,998	4,422,605
Cod	--------	--------	713,838	39,756
Trout	--------	--------	97,125	11,259
Sablefish	--------	--------	472,095	22,706
Smelt	--------	--------	5,166	533
Rockfish	--------	--------	460	9
"Lingcod"	--------	--------	39,798	1,108
Clam	--------	--------	352,239	203,656
Shrimp	--------	--------	497,750	200,312
Crab	--------	--------	210,709	72,865
Whale	4,281,064	235,860	8,925,189	502,081
Total	68,449,042	12,814,030	387,593,551	50,795,819

OPERATING UNITS: BY DISTRICTS

Items	Southeast Alaska	Central Alaska	Western Alaska	Total
	No.	*No.*	*No.*	*No.*
Fishermen	5,420	2,476	3,025	10,921
Vessels fishing:				
Steam	1	3	4	8
Net tonnage	70	207	340	617
Motor	648	58	20	726
Net tonnage	10,596	843	553	11,992
Boats fishing:				
Motor	1,148	657	56	1,861
Other	1,333	948	1,278	3,559
Apparatus:				
Traps	444	268	2	714
Purse seines	527	159	17	703
Yards	184,126	32,740	7,560	224,426
Haul seines	5	166	5	176
Yards	1,000	38,298	580	39,878
Gill nets	321	1,808	2,096	4,225
Yards	50,960	196,060	340,300	587,320
Beam trawls	9	--------	--------	9
Apparatus—Con.				
Wheels	--------	--------	246	246
Lines—				
Hand lines (cod fishery)	--------	91	--------	91
Trawl lines (cod fishery)	--------	44	--------	44
Troll lines (salmon fishery)	3,386	4	--------	3,390
Skates of lines (halibut fishery)	7,150	--------	--------	7,150
Crab pots	340	400	--------	740
Herring pounds	9	5	6	20

CATCH: BY DISTRICTS

[Estimated round weight and value to fishermen]

Items	Southeast Alaska		Central Alaska	
FISH	*Pounds*	*Value*	*Pounds*	*Value*
Salmon:				
Coho or silver	10,947,536	$272,831	6,085,952	$140,601
Chum or keta	23,642,145	406,901	45,944,640	676,101
Pink or humpback	96,133,374	2,388,518	73,977,864	1,591,284
King or spring	8,935,620	380,583	2,846,120	135,870
Red or sockeye	13,371,197	492,829	38,740,147	1,265,293
Herring	135,262,853	1,014,471	9,615,161	72,114
Halibut	39,635,526	4,238,872	1,983,361	183,733
Cod	--------	--------	2,277,945	14,644
Trout:				
Dolly Varden	37,749	4,687	35,641	2,978
Steelhead	48,071	3,594	--------	--------
Sablefish	694,257	22,706	--------	--------
Smelt	7,749	533	--------	--------
Rockfishes	708	9	--------	--------
"Lingcod"	61,228	1,108	--------	--------
Total	328,778,013	9,227,642	181,506,831	4,082,618
SHELLFISH				
Crabs	149,498	13,812	249,330	22,621
Shrimp	905,000	40,062	--------	--------
Clams, razor	--------	--------	704,448	40,731
Total	1,054,498	53,874	953,778	63,352
Grand total	329,832,511	9,281,516	182,460,609	4,145,970

Fisheries of Alaska, 1929—Continued

CATCH: BY DISTRICTS—Continued

[Estimated round weight and value to fisherman]

Items	Western Alaska		Total	
	Pounds	*Value*	*Pounds*	*Value*
FISH				
Salmon:				
Coho or silver	244, 104	$5, 162	17, 277, 592	$418, 594
Chum or keta	14, 965, 002	135, 534	84, 551, 787	1, 218, 536
Pink or humpback	356, 688	4, 519	170, 467, 926	3, 984, 321
King or spring	3, 406, 720	72, 404	15, 188, 460	588, 857
Red or sockeye	103, 004. 675	2, 875, 406	155, 116, 019	4, 633, 528
Herring	8, 227, 738	61, 708	153, 105, 752	1, 148, 293
Halibut	--------	--------	41, 618, 887	4, 422, 605
Cod	--------	--------	2, 277, 945	14, 644
Trout:				
Dolly Varden	--------	--------	73, 390	7, 665
Steelhead	--------	--------	48, 071	3, 594
Sablefish	--------	--------	694, 257	22, 706
Smelt	--------	--------	7, 749	533
Rockfishes	--------	--------	708	9
"Lingcod"	--------	--------	61, 228	1, 108
Total	130, 204, 927	3, 154, 733	640, 489, 771	16, 464, 993
SHELLFISH				
Crabs	--------	--------	398, 828	36, 433
Shrimp	--------	--------	905. 000	40, 062
Clams, razor	--------	--------	704, 448	40, 731
Total	--------	--------	2, 008, 276	117, 226
Grand total	130, 204, 927	3, 154, 733	642. 498, 047	16, 582, 219

NOTE.—In addition to the above statistics, 385 whales were taken in Alaskan waters. The round weight and value to fishermen can not be determined, but the products amounted to 8,925,189 pounds, valued at $502,081.

Industries related to the fisheries of Alaska, 1929

TRANSPORTING

Items	Southeast Alaska	Central Alaska	Western Alaska	Total
Persons engaged	920	656	140	1, 716
Vessels transporting:				
Steam	2	3	19	24
Net tonnage	128	5, 530	26, 757	32, 415
Motor	189	138	63	390
Net tonnage	6, 594	3, 903	3, 764	14, 261
Sail	--------	1	1	2
Net tonnage	--------	1, 590	1, 965	3, 555
Vessels transporting—Continued.				
Scows, houseboats, pile drivers, etc	423	352	224	999

WHOLESALE AND PREPARED PRODUCTS AND BY-PRODUCTS TRADES

Items	Southeast Alaska	Central Alaska	Western Alaska	Total
	Number	*Number*	*Number*	*Number*
Persons engaged	6, 876	4, 644	5, 126	16, 646
Establishments:				
Handling fresh and frozen fish	36	6	--------	42
Curing fish	42	45	16	103
Canning fish	59	70	29	158
Manufacturing by-products	14	8	1	23
Total (exclusive of duplication)	108	111	43	262

Industries related to the fisheries of Alaska, 1929—Continued

PRODUCTS AS PREPARED FOR MARKET

Items	Southeast Alaska		Central Alaska	
	Pounds	*Value*	*Pounds*	*Value*
FRESH				
Salmon (all species)	1, 195, 012	$108, 373	17, 000	$2, 300
Herring (for bait)	4, 043, 990	51, 553	457, 800	6, 863
Halibut	27, 683, 371	3, 359, 217	3, 000	450
Trout	42, 540	6, 203	6, 200	1, 000
Sablefish	4, 321	157		
Smelt	3, 880	392		
Rockfishes	460	9		
"Lingcod"	13, 400	316		
Crabs:				
Meat	70, 979	26, 870	117, 140	44, 513
Whole in shell	7, 540	754	15, 050	728
Shrimp, cooked	497, 750	200, 312		
Total	33, 563, 243	3, 754, 156	616, 190	55, 854
FROZEN				
Salmon (all species)	4, 390, 289	428, 348	4, 880	270
Herring (for bait)	4, 352, 495	34, 729	23, 600	590
Herring (for food)	47, 200	1, 416		
Halibut	7, 988, 602	879, 655	1, 782, 025	183, 283
Trout	26, 116	2, 078	22, 077	1, 958
Sablefish	462, 174	22, 129		
Smelt	1, 286	141		
"Lingcod"	26, 398	792		
Total	17, 294, 560	1, 369, 288	1, 832, 582	186, 101
CURED				
Salmon:				
Mild cured	4, 318, 400	1, 200, 147	228, 800	41, 576
Pickled	77, 800	8, 040	272, 300	35, 963
Dried, smoked, and dry salted	3, 123	165	2, 300	345
Herring:				
Pickled (for food)—				
Scotch cure	1, 244, 250	88, 609	200, 250	13, 660
Norwegian cure	91, 165	5, 703		
Spiced	9, 200	1, 010		
Cod:				
Dry salted			704, 538	38, 306
Stockfish			8, 700	1, 370
Tongues			600	80
Sablefish: Pickled	5, 600	420		
Total	5, 749, 538	1, 304, 094	1, 417, 488	131, 300
CANNED				
Salmon:				
Coho, or silver	4, 696, 656	755, 176	3, 423, 840	529, 130
Chum, or keta	13, 958, 256	1, 573, 384	23, 893, 152	2, 645, 877
Pink, or humpback	74, 045, 520	9, 330, 206	49, 231, 296	6, 231, 430
King, or spring	336, 000	86, 378	1, 711, 728	495, 686
Red, or sockeye	7, 821, 696	1, 915, 377	21, 796, 128	4, 935, 862
Trout			192	20
Clams			352, 239	203, 656
Total	100, 858, 128	13, 660, 521	100, 408, 575	15, 041, 661
BY-PRODUCTS				
Fertilizer:				
Salmon	1, 245, 200	31, 364	401, 970	10, 049
Whale			1, 352, 000	35, 015
Meal, herring	23, 872, 093	691, 484	1, 627, 161	42, 762
Oil:				
Salmon	414, 450	20, 535	140, 363	9, 358
Herring	23, 402, 303	1, 316, 754	1, 656, 540	90, 287
Whale			3, 200, 250	226, 706
Sperm			91, 875	4, 500
Total	48, 934, 046	2, 060, 137	8, 470, 159	418, 677
Grand total	206, 399, 515	22, 148, 196	112, 744, 994	15, 833, 593

Industries related to the fisheries of Alaska, 1929—Continued

PRODUCTS AS PREPARED FOR MARKET—Continued

Items	Western Alaska		Total	
	Pounds	*Value*	*Pounds*	*Value*
FRESH				
Salmon (all species)	----	----	1, 212, 012	$110, 673
Herring (for bait)	----	----	4, 501, 790	58, 416
Halibut	----	----	27, 686, 371	3, 359, 667
Trout	----	----	48, 740	7, 203
Sablefish	----	----	4, 321	157
Smelt	----	----	3, 880	392
Rockfishes	----	----	460	9
"Lingcod"	----	----	13, 400	316
Crabs:				
Meat	----	----	188, 119	71, 383
Whole in shell	----	----	22, 590	1, 482
Shrimp, cooked	----	----	497, 750	200, 312
Total	----	----	34, 179, 433	3, 810, 010
FROZEN				
Salmon (all species)	----	----	4, 395, 169	428, 618
Herring (for bait)	43, 000	$1, 075	4, 419, 095	36, 394
Herring (for food)	69, 477	3, 474	116, 677	4, 890
Halibut	----	----	9, 770, 627	1, 062, 938
Trout	----	----	48, 193	4, 036
Sablefish	----	----	462, 174	22, 129
Smelt	----	----	1, 286	141
"Lingcod"	----	----	26, 398	792
Total	112, 477	4, 549	19, 239, 619	1, 559, 938
CURED				
Salmon:				
Mild cured	----	----	4, 547, 200	1, 241, 723
Pickled	331, 300	29, 017	681, 400	73, 020
Dried, smoked, and dry salted	1, 433, 616	129, 610	1, 439, 039	130, 120
Herring:				
Pickled (for food)—				
Scotch cure	5, 100, 625	425, 115	6, 545, 125	527, 384
Norwegian cure	37, 400	3, 500	128, 565	9, 203
Roused	149, 200	7, 500	149, 200	7, 500
Spiced	----	----	9, 200	1, 010
Dry salted	150, 000	8, 000	150, 000	8, 000
Cod:				
Dry salted	----	----	704, 538	38, 306
Stockfish	----	----	8, 700	1, 370
Tongues	----	----	600	80
Sablefish: Pickled	----	----	5, 600	420
Total	7, 202, 141	602, 742	14, 369, 167	2, 038, 136
CANNED				
Salmon:				
Coho, or silver	133, 392	20, 151	8, 253, 888	1, 304, 457
Chum, or keta	3, 645, 168	402, 090	41, 496, 576	4, 621, 351
Pink, or humpback	162, 720	17, 720	123, 439, 536	15, 579, 356
King, or spring	1, 413, 408	277, 732	3, 461, 136	859, 796
Red, or sockeye	51, 498, 672	11, 253, 186	81, 116, 496	18, 104, 425
Trout	----	----	192	20
Clams	----	----	352, 239	203, 656
Total	56, 853, 360	11, 970, 879	258, 120, 063	40, 673, 061
BY-PRODUCTS				
Fertilizer:				
Salmon	----	----	1, 647, 170	41, 413
Whale	1, 270, 000	33, 575	2, 622, 000	68, 590
Meal, herring	----	----	25, 499, 254	734, 246
Whalebone	16, 000	800	16, 000	800
Pickled whale meat	36, 314	1, 500	36, 314	1, 500
Oil:				
Salmon	----	----	554, 813	29, 893
Herring	----	----	25, 058, 843	1, 407, 041
Whale	2, 692, 500	186, 685	5, 892, 750	413, 391
Sperm	266, 250	13, 300	358, 125	17, 800
Total	4, 281, 064	235, 860	61, 685, 269	2, 714, 674
Grand total	68, 449, 042	12, 814, 030	387, 593, 551	50, 795, 819

NOTE.—Halibut products include all taken by the Alaska fleet, some of which were landed at other than Alaska ports. The total landings in Alaska in 1929 amounted to 13,841,874 pounds, valued at $1,424,623 (including 8,000 pounds, valued at $1,000, landed by Canadian vessels), as compared with 9,805,000 pounds, valued at $757,000 in 1928.

Industries related to the fisheries of Alaska, 1929—Continued

SUPPLEMENTARY TABLE SHOWING THE PACK OF CANNED PRODUCTS IN "STANDARD CASES"[1]

Items	Southeast Alaska		Central Alaska		Western Alaska		Total	
	Cases	*Value*	*Cases*	*Value*	*Cases*	*Value*	*Cases*	*Value*
Salmon:								
Coho, or silver	97, 847	$755, 176	71, 330	$529, 130	2, 779	$20, 151	171, 956	$1, 304, 457
Chum, or keta	290, 797	1, 573, 384	497, 774	2, 645, 877	75, 941	402, 090	864, 512	4, 621, 351
Pink, or humpback	1, 542, 615	9, 330, 206	1, 025, 652	6, 231, 430	3, 390	17, 720	2, 571, 657	15, 579, 356
King, or spring	7, 000	86, 378	35, 661	495, 686	29, 446	277, 732	72, 107	859, 796
Red, or sockeye	162, 952	1, 915, 377	454, 086	4, 935, 862	1, 072, 889	11, 253, 186	1, 689, 927	18, 104, 425
Trout			4	20			4	20
Clams			23, 482	203, 656			23, 482	203, 656
Total	2, 101, 211	13, 660, 521	2, 107, 989	15, 041, 661	1, 184, 445	11, 970, 879	5, 393, 645	40, 673, 061

SUPPLEMENTARY TABLE SHOWING THE OUTPUT OF BY-PRODUCTS IN TONS AND GALLONS

Items	Southeast Alaska		Central Alaska		Western Alaska		Total	
	Quantity	*Value*	*Quantity*	*Value*	*Quantity*	*Value*	*Quantity*	*Value*
Fertilizer:								
Salmon ____ tons	623	$31, 364	201	$10, 049			824	$41, 413
Whale ____ do			676	35, 015	635	$33, 575	1, 311	68, 590
Meal, herring ____ do	11, 936	691, 484	814	42, 762			12, 750	734, 246
Whalebone ____ do					8	800	8	800
Pickled whale meat ____ do					18	1, 500	18	1, 500
Oil:								
Salmon ____ gallons	55, 260	20, 535	18, 715	9, 358			73, 975	29, 893
Herring ____ do	3, 120, 307	1, 316, 754	220, 872	90, 287			3, 341, 179	1, 407, 041
Whale ____ do			426, 700	226, 706	359, 000	186, 685	785, 700	413, 391
Sperm ____ do			12, 250	4, 500	35, 500	13, 300	47, 750	17, 800
Total		2, 060, 137		418, 677		235, 860		2, 714, 674

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[1] The pack of salmon and trout has been converted to "standard cases" of forty-eight 1-pound cans, and clams to "standard cases" of 48 No. 1 5-ounce cans.

COMMON AND SCIENTIFIC NAMES OF FISHERY PRODUCTS

In order to prevent misunderstanding from the use of common names employed in the tables and discussions, the following list of common and scientific names is given.

Common and scientific names of the commercial fishery products caught in the United States and Alaska

Common name as shown in bureau reports	Other common names	Scientific names
Albacore	Longfin tuna	*Germo alalunga.*
Alewives	Branch herring, wall-eyed or big-eyed herring. Blueback, glut herring	*Pomolobus pseudoharengus.* *Pomolobus æstivalis.*
Amberjack		Seriola sp.
Anchovies		*Engraulis mordax.* *Anchoviella delicatissima.* *Anchoviella compressa.*
Angelfish		*Pomacanthus arcuatus.* *Angelichthys isabelita.*
Barracuda		*Sphyræna argentea* (Pacific coast). *Sphyræna barracuda* (Atlantic coast).
Black bass	Smallmouth bass Largemouth bass	*Micropterus dolomieu.* *Micropterus salmoides.*
Bluefish	Tailor	*Pomatomus saltatrix.*
Blue pike	Pike perch, blue pickerel (Canada)	*Stizostedion glaucum.*
Blue runner or hardtail	Runner	*Caranx crysos.*
Bonito		*Sarda sarda.* *Euthynnus pelamis.*
Bowfin		*Amia calva.*
Buffalo fish		Ictiobus sp.
Bullhead		Ameiurus sp.

Common and scientific names of the commercial fishery products caught in the United States and Alaska—Continued

Common name as shown in bureau reports	Other common names	Scientific names
Butterfish	Dollarfish	*Poronotus triacanthus.*
Burbot	Lawyer, ling	*Lota maculosa.*
Cabio	Coal-fish, crab eater, cobia	*Rachycentron canadum.*
Carp (German)		*Cyprinus carpio.*
Catfish		Siluridæ sp.
Cero		*Scomberomonus regalis.*
Chubs	Tullibee in Canada; longjaws, bluefin, blackfin in United States.	All Leucichthys except *artedi* (in Great Lakes).
Cisco	Herring in Canada	*Leucichthys artedi* (Lake Erie only).
Cod	Codfish	*Gadus macrocephalus* (Pacific coast). *Gadus callarias* (Atlantic coast).
Cowfish	Trunkfish, chapin	Ostracion sp.
Crappie	White crappie Black crappie, strawberry bass, calico bass.	*Pomoxis annularis.* *Pomoxis sparoides.*
Crevalle		*Caranx hippos.*
Croaker	Crocus, hardhead	*Micropogon undulatus.*
Cunner	Chogset, blue perch, bergall	*Tautogolabrus adspersus.*
Cusk		*Brosmius brosme.*
Dolly Varden trout	Salmon trout, bull trout	*Salvelinus parkei.*
Dolphin		*Coryphaena hippurus.*
Drum, fresh-water, or sheepshead.	White perch, gaspergou	*Aplodinotus grunniens.*
Drum, black		*Pogonias cromis.*
Drum, red	Channel bass, redfish, spotted bass	*Sciænops ocellatus.*
Eels		*Anguilla rostrata.* *Leptocephalus conger.* *Gymnothorax mordax.* *Gymnothorax moringua.*
Eulachon	Candlefish	*Thaleichthys pacificus.*
Flounders	Dabs, blackbacks, lemon sole, winter flounder, summer flounder.	Pleuronectidae sp.
Flying fish		*Cypsilurus californicus.*
Frigate mackerel		*Auxis thazard.*
Garfish		Tylosurus sp. Ablennes sp.
Gizzard shad	Nanny shad, mud shad	*Dorosoma cepedianum.*
Goldfish	Sand perch	*Carassius auratus.*
Goosefish		*Lophius piscatorius.*
Grayfish	Dogfish Spiny dog Smooth dog	*Squalus sucklii* (Pacific coast). *Squalus acanthias.* *Galeohinus lævis.*
Greenfish	Rudderfish	*Girella nigricans.*
Groupers		Epinephelus sp. Mycteroperca sp.
Grunts	Margatefish, sailor's choice (Key West).	Hæmulon sp.
Haddock		*Melanogrammus aegilfinus.*
Hake	Squirrel hake, Boston hake, ling, black hake, mud hake. Merluccio	Urophycis sp. (Atlantic coast). *Merlucius productus* (Pacific coast)
Halfmoon		*Medialuna californiensis.*
Halibut		*Hippoglossus hippoglossus.*
Halibut, "California"		*Paralichthys californicus.*
Hardhead		*Orthodon microlepidolus.*
Harvestfish	Starfish, pappyfish	*Peprilus alepidotus.*
Herring		*Clupea harengus* (Atlantic coast). *Clupea pallasii* (Pacific coast).
Hickory shad	Tailor shad	*Pomolobus mediocris.*
Hog-choker		*Achirus fasciatus.*
Hogfish	Capitaine, perro perro	*Lachnolaimus maximus* (Florida)
Horse mackerel		*Trachurus symmetricus.*
Jewfish		*Promicrops itaiara.*
Kingfish		*Scomberomorus cavalla.*
Kingfish (California)	Little roncador, croaker	*Genyonemus lineatus.*
King whiting	Northern whiting, kingfish, sea mink	Menticirrhus sp.
Ladyfish	Bonefish, banana fish	*Albula vulpes.*
Lake herring	Herring	*Leucichthys artedi* (Great Lakes, except Erie).
Lake trout		*Cristivomer namaycush.*
Launce	Sand eel, lant, sand launce	*Ammodytes americanus.*
"Lingcod"	Cultus cod, blue cod, buffalo cod, ling	*Ophiodon elongatus.*
Mackerel		*Scomber scombrus* (Atlantic coast). *Scomber diego* (Pacific coast).
Menhaden	Mossbunker, pogy	*Brevoortia tyrannus.*
Minnows		Cyprinidae sp.
Mojarro		Eucinostomus sp.
Moon-eye	Toothed herring	Hiodon sp.
Moonfish		*Vomer setipinnis.* *Selene vomer.*

Common and scientific names of the commercial fishery products caught in the United States and Alaska—Continued

Common name as shown in bureau reports	Other common names	Scientific names
Mullet	Jumping mullet	Mugil sp.
Mummichog	Mayfish, killifish	Fundulus sp.
Muttonfish		*Lutianus analis.*
Paddlefish	Spoonbill cat	*Polyodon spathula.*
Parrotfish		Scaridæ sp.
Perch, white	White perch Blue perch, surf-fishes	*Morone americana.* Embiotocidæ sp. (Pacific coast).
Perch, yellow	Winged perch	*Perca flavescens.*
Permit	Great pompano	*Trachinotus goodei.*
Pickerel		*Esox reticulatus.* *Esox americanus.*
Pigfish		*Orthopristis chrysopterus.*
Pike (jacks)	Great Lakes pike, pickerel	*Esox lucius.*
Pilchard	Sardine	*Sardinia cærulea.*
Pilotfish		*Naucrates ductor.*
Pinfish	Bream, salt-water bream	*Lagodon rhomboides.*
Pollock		*Pollachius virens.*
Pompano		Trachinotus sp. (Atlantic coast). *Palometa simillimus* (Pacific coast).
Porgies	Porgee	Calamus sp.
Porkfish	Sisi	*Anisotremus virginicus.*
Quillback	Spearfish or skimfish	Carpiodes sp.
Roach	Shiner	*Notemigonus crysoleucas.*
Rock bass	Sand bass Red-eye, goggle-eye	Paralabrax sp. (Pacific coast). *Ambloplites rupestris* (Mississippi River and tributaries).
Rockfishes	Rock cod	Sebestodes sp. (Pacific coast).
Rosefish		*Sebastes marinus.*
Sablefish	Black cod	*Anaplopoma fimbria.*
Salmon:		
Atlantic		*Salmo salar* (Atlantic coast).
Pacific—		
King, chinook, or spring.	Tyee, Columbia, Sacramento	*Oncorhynchus tschawytscha.*
Red or sockeye	Blueback	*Oncorhynchus nerka.*
Coho or silver		*Oncorhynchus kisutch.*
Humpback or pink.		*Oncorhynchus gorbuscha.*
Chum or keta	Dog salmon	*Oncorhynchus keta.*
Steelhead		(See steelhead trout.)
Sauger pike	Sand pike	*Stizostedion canadense.*
Sawfish		*Pristis pectinatus.*
Scamp		*Mycteroperca phenax.*
Sculpin		Cottidæ sp.
Scup	Paugy or porgy, fair maid	*Stenotomus chrysops.*
Sea bass	Black jewfish or black sea bass Black sea bass	*Stereolepis gigas* (Pacific coast). *Centropristes striatus* (Atlantic coast).
Sea bass, white (California)		*Cynoscion nobilis* (Pacific coast).
Sea gar	Needlefish, billfish, houndfish	Tylosurus sp.
Sea robin		Prionotus sp.
Shad	American shad	*Alosa sapidissima.*
Sharks		Carcharodon sp.; Mustelus sp.; Carcharhinus sp.; Sphyrna sp.
Sheepshead (salt-water)		*Archosargus probatocephalus.*
Sheepshead (fresh-water)	Drum, fresh-water	*Aplodinotus grunniens.*
Sheepshead (Pacific coast)	Redfish, flat head	*Pimelometopon pulcher.*
Silversides	Spearing	Menidia sp.
Silver perch	Sand perch	*Bairdiella chrysura.*
Skates		Raja sp.
Skipjack	Striped tuna	*Sarda chilensis.*
Skipper	"Billfish"	*Scomberesox saurus.*
Smelt		*Osmerus mordax* (Atlantic coast). Argentinidæ sp. (Pacific coast).
Snapper, Mangrove	Gray snapper	*Lutianus griseus.*
Snapper, red		*Lutianus blackfordii.*
Snook	Robalo, sergeantfish	*Centropomus undecimalis.*
Sole		*Psettichthys melanostictus* (Pacific coast).
Spadefish		*Chædipterus faber.*
Spanish mackerel		*Scomberomorus maculatus.*
Splittail		*Pogonichthys macrolepidotus.*
Spot	Lafayette, goody	*Leiostomus xanthurus.*
Squawfish	Sacramento pike	*Ptychocheilus oregonensis.*
Squeteague (gray)	Gray trout, weakfish, trout	*Cynoscion regalis.*
Squeteague (spotted)	Spotted weakfish, spotted trout	*Cynoscion nebulosus.*
Squirrelfish		*Diplectrum formosum.*
Steelhead trout	Salmon trout	*Salmo gairdneri.*
Stingray		Dasyatis sp.
Striped bass	Rockfish, rock	*Roccus lineatus.*
Sturgeon		Acipenser sp.

Common and scientific names of the commercial fishery products caught in the United States and Alaska—Continued

Common name as shown in bureau reports	Other common names	Scientific names
Sturgeon, shovel-nosed		*Scaphirhynchus platorynchus.*
Sucker	Fresh-water mullet	Catostomidæ sp.
Sunfish		Lepomis sp. Centrarchidæ sp.
Swellfish	Puffer, swell toad, balloonfish, globefish.	*Spheroides maculatus.*
Swordfish		*Xiphias gladius.*
Tang		Hepatus sp.
Tarpon	Silver king	*Tarpon atlanticus.*
Tautog	Blackfish, oysterfish	*Tautoga onitis.*
Ten-pounder	Elops	*Elops saurus.*
Thimble-eyed mackerel	Bull's-eye	*Scomber colias.*
Tilefish		*Lopholatilus chamæleonticeps.*
Tomcod		*Microgadus tomcod* (Atlantic coast). *Microgadus proximus* (Pacific coast).
Tripletail		*Lobotes surinamensis.*
Tuna	Blufin tuna, tunny, horse mackerel, leaping tuna.	*Thunnus thynnus.*
Turbot	Greenland halibut, American turbot	*Reinharditus hippoglossoides.* *Balistes carolinensis.*
White bass	White lake bass	*Roccus chrysops.*
White bait		Small fry of any fish.
Whitefish		*Coregonus clupeiformis* (Great Lakes). *Caulolatilus princeps* (Pacific coast).
Whitefish (Menominee)		*Coregonus clupeaformis.*
Whiting	Silver hake	*Merluccius bilinearis.*
Wolffish		*Anarrhichas lupus.*
Yellow bass		*Morone interrupta.*
Yellow perch		*Perca flavescens.*
Yellow pike	Wall-eyed pike, pike perch, dore	*Stizostedion vitreum.*
Yellow fin tuna		*Neothunnus macropterus.*
Yellowtail		*Ocyurus chrysurus* (Atlantic coast). *Seriola dorsalis* (Pacific coast).
Abalone		Halotis sp.
Clams:		
Hard	Round clam, cherrystone, quahog, little neck.	*Tivela stultorum* (Pacific coast). *Venus mercenaria* (Atlantic coast). *Venus mortoni* (Florida coast).
Cockle		*Cardium corbis.*
Soft	Sand clam, soft-shelled clam, nannynose, maninose.	*Mya arenaria.*
Razor (Atlantic)		Siliqua sp.; Tagelus sp.
Razor (Pacific)		*Siliqua patula.*
Pismo		*Tivela stultorum* (Pacific coast).
Conchs		Strombus sp. Busycon sp.
Crabs:		
Stone		*Menippi mercenaria.*
Soft	Soft-shelled crab, blue crab	*Callinectes sapidus.*
Hard	Hardshell crab, blue crab	Do.
	Dungeness crab	*Cancer magister* (Pacific coast).
	Rock crab, hard crab	*Cancer irroratus* (Atlantic coast).
King	Horseshoe crab	Limulus.
Spider	Toad crab	*Hyas coarctatus.*
Crawfish	Crayfish	Cambarus sp. (Atlantic coast). Astacus sp. (Pacific coast).
Lobsters:		
Common		*Homarus americanus* (Atlantic coast).
Spiny	Rock lobster, crayfish	*Panulirus interruptus* (Pacific coast). *Panulirus argus* (Atlantic coast).
Mussels		*Mytilus californianus* (Pacific coast). *Mytilus edulis.*
Octopus		*Octopus punctatus* (Pacific coast).
Oysters:		
Eastern		*Ostrea elongata.*
Western	Olympia	*Ostrea lurida* (Pacific coast).
Japanese (introduced)		*Ostrea gigas.*
Periwinkles		Littorina sp.
Scallops:		
Sea		*Pecten magellanicus.*
Bay		*Pecten irradians* (Atlantic coast). *Pecten æquisulcatus* (Pacific coast).
Shrimp		*Peneus setiferus.* *Peneus brasiliensis* (Atlantic and Gulf coasts). Pandalus sp. (Pacific coast). Pandalopsis sp. (Pacific coast). Crangon sp. (Pacific coast).
Snails		Gastropoda sp.

Common and scientific names of the commercial fishery products caught in the United States and Alaska—Continued

Common name as shown in bureau reports	Other common names	Scientific names
Squid		*Loligo opalescens* (Pacific coast). *Loligo pealei* (Atlantic coast).
Turtles:		
Green		*Chelonia mydas.*
Loggerhead		*Thalassochelys caretta.*
Hawksbill		*Chelonia inbricata.*
Snapping	Mud turtle, mossback	*Chelydra serpentina.*
Terrapin	Diamond-back terrapin	*Malacoclemmys palustris.*
Frogs		Rana sp.
Irish moss		*Chondrus crispus.*
Kelp		Macrocystis sp.; Nereocystis sp.; Pelagophycus sp.; Alaria sp.
Sponges:		
Glove		*Spongia graminea* (Hyatt) *Euspongia officinalis* (L.).
Grass		*Hippospongia equina cerebriformis.*
Sheepswool		*Hippospongia canaliculata gossypina.*
Yellow		*Hippospongia equina elastica.*
Trepang	Sea cucumber	*Cucumaris frondosa; Thyone briareus.*

METHODS USED IN COLLECTING STATISTICS

In order that persons using the statistics in this report may judge as to their completeness and authenticity, there follows an outline of the methods employed by the bureau in collecting fishery statistics. It will be noted that several methods are used. Each, in so far as possible, is the most efficient that can be developed to accomplish the desired result with the available personnel.

General fishery statistics.—The purpose of collecting general fishery statistics is to obtain statistics on the catch of fishery products and its value as landed by the fishermen, the quantity or number of each kind of gear used, the number of fishing boats, the number and net tonnage of fishing and transporting vessels, the number of wholesale establishments, the amount of wages and salaries paid in these establishments, the quantity and value of products prepared, and the number of persons engaged in each phase of the industry.

The scope of the coastal surveys includes the commercial fisheries of the oceans, bays, and coastal rivers as far inland as commercial fishing is important. This usually coincides with the range of commercial fishing for anadromous species. Statistics of the fisheries of the Mississippi River include the fisheries of the Mississippi River proper, as well as all tributaries wherein commercial fishing for either fish, crustaceans, or mollusks is prosecuted. Statistics of the lake fisheries include those prosecuted in the Great Lakes, adjacent bays, and the international lakes of northern Minnesota, as well as certain rivers having outlets into these waters.

General statistics of the fisheries of the United States are not collected each year, but each year statistics are collected for several geographical sections. The aggregate of these statistics for the various years is taken to represent an average year.

In conducting these surveys it is the custom of the bureau to dispatch agents to the districts to be surveyed early in the calendar year. They obtain statistics on operations during the previous calendar year, except that statistics of the oyster fishery are obtained for the season ending in the spring of the following year. The agents conducting these surveys are trained men or recruits working under the close supervision of trained men. Recruits are permitted to work individually only after proving a satisfactory aptitude for the work during their training period. While it is impossible for the few agents available to interview each fisherman in a given locality, the more important ones are visited and a sufficient number of those of lesser importance are interviewed to obtain reliable information on their production. In practice, virtually all wholesale firms are visited, as well as captains of fishing vessels (those of 5 net tons or over) and also all the more important shore fishermen and representative small producers.

As an aid in locating fishermen, lists of vessel and motor-boat owners are obtained from local customs houses. It is also often possible to obtain the names of licensed commercial fishermen and occasionally some statistics of the catch from the various State fishery agencies. In the Great Lakes and Pacific Coast States such exceptional cooperation has been obtained from the State agencies in recent years that only fragmentary surveys are made by the bureau to supplement missing data.

For the Great Lakes and international lakes of northern Minnesota the bureau obtains catch statistics and usually the value of the catch direct from the State records. To obtain data on the fishermen, boats, vessels, and gear the bureau conducts such personal surveys among the fishermen as may be necessary to supplement the State records. Statistics of the wholesale industry have not been obtained since 1922. Annual catch statistics are available since 1913.

Agents are stationed at Seattle, Wash., who survey each of the Pacific Coast States annually to supplement data that are missing from the State records. In most cases the value of the catch is derived from dealers' records and from estimates of prices. In Washington and Oregon the offshore fisheries are surveyed separately for units of operation, catch, and value of the catch. In almost all other respects the statistics are as collected by the States. Statistics of the wholesale industry for this district are obtained largely by personal interview.

The fisheries of Alaska are conducted primarily by large operators. Sworn statements are required from these operators concerning their operations. These are collected and compiled by the Alaska division of this bureau. Bulletins containing statistics for each district are released following the survey.

Atlantic mackerel fishery.—Complete statistics on the catch by the Atlantic mackerel fleet are obtained by combining the figures of those landed at Boston and Gloucester, Mass., and Portland, Me., with those obtained by agents who in recent years have been stationed at other Atlantic ports where mackerel are landed. These agents obtain data on each fare of mackerel landed, similar to the data obtained on the landings by fishing vessels at the three New England ports. Complete statistics of this fishery appear only in the annual reports of this division, although the landings at the principal New England ports appear in the monthly and annual bulletins published for those ports.

Pacific halibut fishery.—Statistics of the Pacific halibut fishery are obtained by the bureau's agent in Seattle, aided by bureau representatives in Alaska and American consuls in British Columbia. The fleet classification has been arbitrarily applied by including in the "Washington fleet" all vessels that land more than half of their catch in that State. All other American vessels of the halibut fleet are included in the Alaska fleet. Monthly and annual statistical bulletins are available on this fishery, being published along with the statistics of the landings of fishery products at Seattle, Wash.

Shad and alewife fisheries.—Due to the importance of the Hudson and Potomac Rivers in the production of shad, surveys for statistics of the catch, value of the catch, and operating units are made annually. On the Potomac River similar statistics also are obtained for the alewife fishery. The surveys are conducted by agents in a manner similar to that employed in the collection of general statistics, except that probably more fishermen are interviewed as great care is exercised to make these canvasses as accurate as possible.

The State of New York obtains statistics for the fisheries of the Hudson River that closely parallel those desired by the bureau for this fishery, which alleviates the work on this river. Both Maryland and Virginia license the shad and alewife fishermen of the Potomac River, which gives a very satisfactory list of fishermen for the agents surveying this district.

Statistics of the shad and alewife fisheries are not published separately in bulletin form, but a summary of the year's activities is published in the annual report of this division.

Fisheries of Lakes Pepin and Keokuk.—As a means of ascertaining the effect of the Keokuk Dam upon the fisheries of the upper Mississippi River, annual statistics of the fisheries of Lakes Pepin and Keokuk are obtained by personal surveys conducted by employees of the bureau at the Fairport (Iowa) biological station. Their methods are like those employed in the general surveys. The statistics are not published in bulletin form, but summaries of production appear in the annual reports of this division.

Fisheries of the Mississippi River.—Statistics of that portion of the Mississippi River lying between Lakes Keokuk and Pepin were obtained for the year 1929 for the first time since 1922. These data are collected by representatives of the bureau's biological station at Fairport, Iowa, and the fish-cultural station at La Crosse, Wis. Statistics covering this production are not available in bulletin form but a summary appears in this report.

Statistics of the production of fresh-water mussel shells in the United States also were obtained for the year 1929 for the first time since 1922. These data are collected by questionnaire and personal survey. A summary of the production is published in this report.

Fisheries of Lake Okeechobee.—Statistics of the fisheries for Lake Okeechobee were obtained for the first time in 1927 as a part of the general statistical canvass of the Gulf States.

Landings at certain important United States ports.—Statistics of the landings at the principal New England ports—Boston and Gloucester, Mass., and Portland, Me.—are similarly obtained. An agent is permanently stationed at each of these ports. His duties include the obtaining of statistics on the quantity of fish landed each day by each fishing vessel, the value of such fish landed, information concerning the date of departure and arrival of the vessel, and also a list of the grounds from which the fish were taken and the gear used in their capture. These statistics are forwarded to the bureau, where compilations are made. Monthly statistical bulletins are issued for these landings as well as annual bulletins summarizing the year's activities.

Statistics of the landings of fish at Seattle, Wash., are collected by the bureau's agent at that place. Landings are classified as those made by American fishing vessels and those received by Seattle wholesale dealers. The landings credited to American fishing vessels are made by vessels operating distinctly as primary fishing units, usually in the offshore fisheries, while those credited as received by wholesale dealers are usually products of the shore fisheries collected mainly from points in Puget Sound and do not include fish received from Alaska or Canada, or landings made by the halibut fleet. Monthly statistical bulletins are issued for these landings as well as annual bulletins summarizing the year's activities.

Statistics of the combined landings of fish at New York City and Groton, Conn., are obtained by J. H. Matthews, executive secretary of the Middle Atlantic Fisheries Association. Statements of these landings are forwarded to the bureau, where they are compiled. These statistics have not included the value of the catch. Monthly bulletins including these data are not issued; however, a summary is published herewith.

Statistics of the fishery products handled at the municipal wharf, Washington, D. C., are reported to the bureau daily by agents of the city health department. These are compiled on an annual basis. They are not published in bulletin form, but a summary of the year's activities is published in the annual report of this division.

Canned fishery products and by-products.—Beginning in 1921, the bureau has made annual surveys for statistics of the canned fishery products and by-products industries. These are begun the first week in January of each year for statistics of the production in the preceding year. The surveys occupy usually 6 to 9 weeks' time. During this period agents visit each plant in the United States where there is a production of canned fishery products or by-products. They obtain statistics of the production and value of the production for each commodity. In rare instances, where plants are not easily reached by regular transportation facilities, returns are obtained by mail.

Statistics on the production of fresh-water mussel shell products, which include pearl buttons, crushed shell for poultry feed, lime, cut shells, stucco, and colored shell chips used for decorative purposes, were included in this survey for the first time in the data for 1929.

The value shown for canned products constitutes the gross amount received by the packer at the production point, no deductions being made for commissions or expenses.

Statistics of the canned fishery products and by-products produced in Alaska are received on the same sworn statements that include statistics of the general fisheries. An annual statistical bulletin is issued on this trade.

Packaged-fish trade.—Complete statistics of the annual production and value of fish packaged in the United States are obtained as a part of the survey for statistics of the canned fishery products and by-products industries. These statistics are published in bulletin form annually.

Cold-storage holdings of fish.—An arrangement has been made with the Bureau of Agricultural Economics, Department of Agriculture, whereby statistics of the cold-storage holdings of the various species of fish, by sections of the United States, are furnished to this bureau monthly. Included with statistics of the holdings is a statement of the quantity of the various species of fish frozen and also the holdings of cured fish. Bulletins showing these statistics are issued monthly as well as annually summarizing the year's activities.

Sponge market, Tarpon Springs.—A large proportion of the total output of sponges in Florida is handled through the sponge exchange at Tarpon Springs. In view of this, the bureau has arranged with a representative of the exchange to furnish statistics of the quantity and value of the sponges, by variety classification, handled through it annually. Statistics of the quantity of sponges handled through the exchange are not published in bulletin form, but a summary of the year's activities is published in the annual reports of this division.

Foreign fishery trade.—Statistics on the foreign fishery trade are obtained from compilations made by the Bureau of Foreign and Domestic Commerce. Statistics of all known fishery products imported or exported are assembled in one table and published annually in the report of this division.

STATISTICAL PRACTICES

Practices followed in the collection and tabulation of statistics are explained below:

Days absent.—In computing "days absent" for vessels landing fares at the various ports, the day of departure and the day of arrival are included; thus, a vessel leaving port on the 8th of the month and returning on the 15th of the month will be shown as being absent eight days.

Operating units.—Operating units as referred to in this document include persons engaged and fishing craft and gear employed.

Vessels.—The term "vessels" refers to craft having a capacity of 5 net tons or greater.

Percentages.—Percentages are usually shown as whole numbers. Fractions of per cents are dropped if less than five-tenths, and the percentage is raised to the next higher integer if the fraction is greater than five-tenths. If the fraction is exactly five-tenths, the integer is raised or lowered to make it an even number.

Converting.—Many of the figures shown in the statistical tables published herewith have been reduced to thousands of pounds or dollars. In making these conversions the largest number from which a group of items is computed is raised or lowered to the nearest thousands place. If the number ends in an even 500, the thousands integer is raised or lowered to make it an even number. The individual items are changed to conform to the total thus obtained.

Conversion factors.—The principal conversion factors that have been used in this report follow:

Alewives	1 weighs about ⅖ of 1 pound.
Clams, hard	1 bushel equals about 8 pounds of meat.
Clams, soft	1 bushel equals about 10 pounds of meat.
Cod, large, salted	To convert to fresh-gutted weight multiply by 1.90.
Cod, market, salted	To convert to fresh-gutted weight multiply by 1.94.
Cod, scrod, salted	To convert to fresh-gutted weight multiply by 1.98.
Crabs, blue (hard and soft)	1 weighs about ⅓ of 1 pound.
Cusk, salted	To convert to fresh-gutted weight multiply by 1.90.
Haddock, large, salted	To convert to fresh-gutted weight multiply by 2.06.
Haddock, scrod, salted	To convert to fresh-gutted weight multiply by 2.10.
Hake, large, salted	To convert to fresh-gutted weight multiply by 1.90.
Hake, small, salted	To convert to fresh-gutted weight multiply by 1.98.
Halibut, salted	To convert to fresh-gutted weight multiply by 2.
Herring, salted	To convert to fresh-gutted weight multiply by 1.50.
Mackerel, salted	To convert to fresh-gutted weight multiply by 1.35.
Menhaden	1 weighs about ⅗ of 1 pound.
Oysters, market and seed	1 bushel equals about 7 pounds of meat.
Oil (east coast)	1 gallon weighs about 7.5 pounds.
Oil (west coast)	1 gallon weighs about 7.74 pounds.
Pollock, salted	To convert to fresh-gutted weight multiply by 1.90.
Scallops	1 bushel equals about 6 pounds of meat.
Sponges, dried (Florida):	
Large wool	1 weighs about 2½ pounds.
Small wool	1 weighs about 1 pound.
Glove	1 weighs about 1½ pounds.
Grass	1 weighs about 2½ pounds.
Wire	1 weighs about 1½ pounds.
Yellow	1 weighs about 1½ pounds.

Persons wishing to obtain copies of all statistical bulletins issued by the bureau should request to be put on the bureau's mailing list No. 132 for general statistical bulletins and No. 135 for the monthly cold-storage reports.